

736 F Street  
Arcata CA 95521

*City Manager*  
707-822-5953

*Community Development*  
707-822-5955

*Environmental Services*  
*Streets/Utilities*  
707-822-5957

*Police*  
707-822-2428

*Finance*  
707-822-5951

*Environmental Services*  
*Community Services*  
707-822-8184

*Recreation*  
707-822-7091

*Transportation*  
707-822-3775

*Building & Engineering*  
707-825-2128

## U.S. Environmental Protection Agency FY 2021 Brownfield Cleanup Grant Narrative Information Sheet

### 1. Applicant Identification

City of Arcata

Address: 736 F Street, Arcata, CA, 95521

### 2. Funding Requested

a. Cleanup Grant Type: Single Site Cleanup

b. Federal Funds Requested

i. \$300,000

ii. The City is not requesting a cost share waiver.

### 3. Location

a. Arcata

b. Humboldt County

c. California

### 4. Property Information

The former Little Lake Industries Mill Site is comprised of two parcels at 46 South "I" Street (Assessor's parcel number [APN] 503-232-013 and 503-232-004) in Arcata, California.

### 5. Contacts

a. Project Director

Jennifer Dart,

Community Development Deputy Director

City of Arcata

736 F Street, Arcata, CA 95521

[Jdart@cityofarcata.org](mailto:Jdart@cityofarcata.org)

p. 707-825-2112

b. Chief Executive/Highest Elected Official

Michael Winkler

Mayor, City of Arcata

736 F Street, Arcata, CA 95521

[Mwinkler@cityofarcata.org](mailto:Mwinkler@cityofarcata.org)

p. 707-822-1857



*City Manager*  
707-822-5953

*Community Development*  
707-822-5955

*Environmental Services*  
*Streets/Utilities*  
707-822-5957

*Police*  
707-822-2428

*Finance*  
707-822-5951

*Environmental Services*  
*Community Services*  
707-822-8184

*Recreation*  
707-822-7091

*Transportation*  
707-822-3775

*Building & Engineering*  
707-825-2128

## 6. Population

City of Arcata Population is 18,431

## 7. Other Factors Checklist

<b>Other Factors</b>	<b>Page #</b>
Community Population is 10,000 or less.	N/A
The applicant is, or will assist, a federally recognized Indian tribe or United States territory.	N/A
The priority brownfield site(s) is impacted by mine-scarred land.	N/A
Secured firm leveraging commitment ties directly to the project and will facilitate completion of the project/reuse; secured resource is identified in the Narrative and substantiated in the attached documentation	3,4
The priority site(s) is adjacent to a body of water (i.e., the border of the priority site(s) is contiguous or partially contiguous to the body of water).	1
The priority site(s) is in federally designated flood plain.	1
The reuse of priority site(s) will facilitate renewable energy from wind, solar, or geothermal energy; or will incorporate energy efficient measures.	N/A
30% or more of the overall project budget will be spent on eligible reuse planning activities for priority brownfield site(s) within target area.	N/A

## 8. Letter from the State Environmental Authority

Attachment: North Coast Regional Water Quality Control Board October 26, 2020 letter, concurring with remedial action at the site.



---

## North Coast Regional Water Quality Control Board

October 26, 2020

Noemi Emeric-Ford  
U. S. Environmental Protection Agency, Region 9  
Brownfield Program  
75 Hawthorne Street  
San Francisco, CA 94105  
[Emeric-Ford.Noemi@epa.gov](mailto:Emeric-Ford.Noemi@epa.gov)

Dear Noemi Emeric-Ford:

Subject: U.S. Environmental Protection Agency Brownfield Cleanup Grant  
City of Arcata, Little Lake Industries, Humboldt County, California - Letter of  
Acknowledgement

The California Regional Water Quality Control Board, North Coast Region, is the lead regulatory agency responsible for the investigation and remediation of contaminated sites in Humboldt County, California. Through various initiatives, the Regional Water Board works cooperatively with state and local agencies to foster Brownfields redevelopment and achieve cost-effective, successful assessment of sites, while safeguarding public health and the environment.

The Regional Water Board acknowledges and supports the City of Arcata's efforts to apply for and obtain a FY21 federal Brownfields cleanup grant. City staff representatives have been in contact with this office about the planned cleanup activities.

We appreciate the opportunity to voice our support of this funding. Please contact me if you have any questions at (707) 570-3769 or [Heidi.M.Bauer@waterboards.ca.gov](mailto:Heidi.M.Bauer@waterboards.ca.gov).

Sincerely,

Heidi M. Bauer, P.G.  
Senior Engineering Geologist  
Site Cleanup Unit Supervisor

cc: David Loya, Community Development Director, City of Arcata,  
[dloya@cityofarcata.org](mailto:dloya@cityofarcata.org)

---

VALERIE L. QUINTO, CHAIR | MATTHIAS ST. JOHN, EXECUTIVE OFFICER

5550 Skylane Blvd., Suite A, Santa Rosa, CA 95403 | [www.waterboards.ca.gov/northcoast](http://www.waterboards.ca.gov/northcoast)

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
BROWNFIELD CLEANUP PROGRAM  
Narrative/Ranking Criteria**

**1. Project Area Description and Plans for Revitalization**

**a. Target Area and Brownfields**

**i. Background and Description of Target Area**

The City of Arcata (pop. 18,431) is a coastal town located in northern California with an economic history from 1850 to the late 1970's dominated by timber extraction and processing. As new environmental awareness and regulations drastically reduced allowable timber harvests, many of the lumber mills and supporting industries in Arcata closed. A once resource-extractive economy diversified to include education, health and social services, resource protection and restoration, and government. The California Coastal Zone permitting, resource constraints, predicted sea level rise and greenbelt limit outward expansion of the City, requiring a focus on infill and redevelopment of underutilized properties.

As of 2009, there were only twenty-three (23) vacant/underutilized residential parcels, and one hundred seventy-one (171) vacant/underutilized commercial/industrial parcels suitable for development within the City. Thirty-two (32) of these parcels (132 total acres) have been previously identified as brownfields due to historical uses of the land, resulting in developmental constraints from contamination, or perceived contamination. As a result, economic growth in Arcata has been stymied due to the lack of City resources available to assess the extent of environmental contamination present on these properties, and the reluctance of developers to invest in properties not eligible for traditional financing without additional costs and uncertainty.

**ii. Description of the Brownfield Site**

The Little Lake Industries Mill (LLI) property is comprised of two parcels at 46 South "T" Street (Assessor's parcel number [APN] 503-232-013 and 503-232-004) located South of Samoa Boulevard in Arcata, California. The Little Lake Industries property consists of approximately 12 acres bordered by a creek, slough, paved street, open space, and commercial property. Jolly Giant Creek is located along the eastern and southern portions of the property boundary and flows south to Butcher's Slough and eventually to Humboldt Bay. Portions of the site are located in a federally designated flood zone. The Federal Emergency Management Agency (FEMA) online flood map service shows that the eastern and southern edges of the property are designated as Zone AE, which is assigned to areas that present a 1% annual chance of flooding and a 26% chance over thirty years.

From 1950 to 1988, the site was primarily used for timber-related operations that included log storage, milling, and drying. Structures on the site consisted of a remanufacturing complex, kilns, maintenance shed, boiler building, drying shed, conical burner, and office building. No report of wood treatment occurred at the LLI site; however, chemicals associated with treated wood have been identified. Prior to 1950, the area was used for agricultural purposes.

Two 1,000-gallon underground storage tanks (USTs) installed in 1959 for diesel fuel were removed from the former Maintenance Building area in August 1987. In 1990, the tank area was



re-excavated and approximately 200 cubic yards of soil was removed and stockpiled at the site. The UST site received closure from the North Coast Regional Water Quality Control Board (RWQCB) in March 2000, prior to the City of Arcata obtaining the property. The RWQCB is the lead oversight agency for the LLI mill and all documentation for the site is uploaded to the State of California Geotracker database.

The City of Arcata acquired the property in July 2001, at which time the abandoned structures of the kiln building, drying shed, and associated boiler remained in the northern portion of the site. Contamination issues for the kiln buildings were identified in surface coating on the inside of the kiln and drying shed buildings, which contained elevated levels of dioxins. The City oversaw demolition and disposal of the kiln area buildings, their foundations and the boiler house in October and November 2009.

Two targeted brownfields assessments have been completed at the site by Weston Solutions (December 2002 and April 2004). These initial investigations determined that the primary contaminants of concern were lead, diesel, semi volatile organic compounds and dioxins but did not identify the lateral extents of contamination. In 2019 a Site Investigation and Data Gaps Work Plan was developed and implemented under USEPA funding to further assess the extent of contamination in soil and groundwater at the site. The site investigation Report of Findings dated October 31, 2019, summarized results of the investigation and determined contaminant levels present at the site were below regulatory thresholds for all contaminants excluding dioxins in the former kiln buildings area. In April 2020 an additional round of soil sampling was conducted under EPA funding in the former kiln area along the western border of the property to better define the lateral extent of contamination. Addendum 1 to the Report of Findings dated May 27, 2020 discusses the results of this final site investigation.

The results of these investigations show that dioxin impacts to soil appear to be concentrated along the northwest perimeter of the former kiln building, along the property boundary with South “T” Street. Soil sample results show that there are minimal impacts outside of the former kiln building area and provide support for a southern and eastern boundary on contamination. Dioxin impacts are within shallow fill soil 2.0 and 3.0 feet below ground surface.

## **b. Revitalization of the Target Area**

### **i. Reuse Strategy and Alignment with Revitalization Plans**

The *City’s Economic Development Strategic Plan* identifies the Little Lake site as part of the Samoa Boulevard Revitalization Area, one of five targeted areas that have significant potential for economic development in the city.

This project is specifically aligned with *The Arcata General Plan: 2020 and Local Coastal Land Use Plan* goal “G - Encourage infill development of vacant, brownfield, and underutilized land designated for development as a way of meeting housing and employment needs without major extensions of infrastructure and services.”

The redevelopment plan for the City of Arcata is the “*Implementation Plan: 2010-2014, Arcata Community Development Project Area*”, (Planwest, 2009). The plan identified a primary goal to “promote a stable, diversified, and expanded economic base” including: Encourage orderly and appropriate brownfield site cleanup and redevelopment of vacant parcels throughout the Project

Area, including, but not limited to, former mill sites such as the Little Lake Industries property on South I Street and parcels fronting on Samoa Blvd. west of the railroad tracks.

#### ii. Outcomes and Benefits of Reuse Strategy

The plans for redevelopment of the Little Lake site include an approximately 5-acre mixed use development supporting hundreds of jobs. The balance of the property, approximately six acres, will be recreational and open space amenities added to the larger Arcata Marsh complex. Development of the site would eliminate blight, create jobs near existing transit stops and major transportation corridors, expand active recreational opportunities, improve habitat along Butcher Slough, and provide additional flood basin capacity around the South I Street neighborhood, thereby protecting existing infrastructure and public and private development from future flooding.

The specific business activities that will occur on the site have not been determined. However, the City estimates the site could support minimally 200 jobs. The City is carrying forward the former Redevelopment Agency's plans for redeveloping the site based on the Long Range Property Management Plan approved in 2014. The focus of this plan is job creation. Since the City owns the property, development on the site will be contingent on job creation.

The open space and recreation amenities will be a mix of passive and active recreational amenities and habitat restoration. The plan includes outdoor gathering areas, trails, and marsh expansion areas. Community stakeholders will continue to be an important part of solidifying plans for the site. Ideas gathered to date include picnicking areas, an off-leash dog park, trails along the eastern edge connecting the marsh, and a wetland enhancement. Redevelopment of the site would add active and passive recreational amenities within walking distance of downtown and would expand the size and utility of the adjoining Arcata Marsh creating a more walkable community.

#### **c. Strategy for Leveraging Resources**

##### i. Resources Needed for Site Reuse

The Little Lake site was purchased in 2001 for redevelopment purposes. The site was described in the City's Redevelopment Agency's Implementation Plan, Economic Development Strategic Plan, the Long Range Property Management Plan, as well as other project planning documents, as an important economic development and public recreation opportunity. However, due to the potential for contamination on the site, the long-held plans to develop it have been on hold. This EPA Brownfield Cleanup grant will remove the cloud on the property, allowing the City to continue to invest in the site and implement the development plans. The City will have the capacity to leverage local, state, and federal grants, as well as private capital, to bring the project to fruition.

The City holds the former Redevelopment Agency Bond Proceeds held in the Successor Agency fund in the amount of approximately \$3.4 million dollars, which it can access to redevelop portions of the property. In addition, the City will seek State Community Development Block Grant Economic Development set-aside funds to assist with either infrastructure in support of or direct business assistance. The City will leverage state and federal funds to develop the public trail and other park amenities. In addition, once the site remediation is completed, the City will leverage private financing, selling a portion of the property for redevelopment.

## ii. Use of Existing Infrastructure

The site currently consists of building foundations and footings, bare ground, vegetated areas, and various stockpiles of soil and gravel. Sewer infrastructure is in the public road that is adjacent to and borders the property to the West. In addition, the City's 239 acre Arcata Marsh and Wildlife Sanctuary (Arcata Marsh) is adjacent to the property. This recreational infrastructure is an amenity for the site.

The City's water infrastructure ends approximately 100 ft from the property. This would need to be extended to connect service to the site. The property has an expansion of the recreation infrastructure associated with the Arcata Marsh. The project may require improvements to the City streets and possibly the intersection of Samoa Boulevard and I Street.

## **2. COMMUNITY NEED AND COMMUNITY ENGAGEMENT**

### **a. Community Need**

#### i. The Community's Need for Funding

The City of Arcata median household income is \$31,674, and has a poverty rate of 37.4%, compared to the national average income of \$60,293 and national poverty rate of 10.5%, based on the census data estimates from 2014-2018. Arcata is considered a low-income area and does not have another source of funding available to carry out necessary environmental remediation in order to allow subsequent reuse of the Little Lake site.

#### ii. Threats to Sensitive Populations

##### (1) Health or Welfare of Sensitive Populations

Due to the site's proximity to the Marsh and the fact that it is a vacant site, there are at times unauthorized uses on the site such as homeless encampments, including families with children. Remediation of the site will reduce the threat of this vulnerable population encountering the contamination.

Sensitive populations threatened by environmental exposure includes school-aged children. Due to the Little Lake brownfield site proximity to the marsh, it is likely visited by dog walkers and others for recreation. The site is also located adjacent to a neighborhood consisting of lower-income families. Exposure to brownfield site contaminants may contribute to high infant mortality and asthma rates in Arcata.

##### (2) Greater Than Normal Incidence of Disease and Adverse Health Conditions

The public health impact of brownfield sites in Arcata may contribute to the elevated blood lead levels in children (associated with lower IQ/nerve damage/brain damage). The percent of children in Humboldt County (age 0-20) with elevated blood lead levels is 4th highest in California (<http://www.kidsdata.org>).

According to California Health Interview Survey (CHIS), 2014, the percent of children with active asthma in Humboldt County is 150% of the state percent, and the percentage of all persons with lifetime asthma is 133% of the state rate. Asthma is known to be associated with outdoor air pollution possibly generated from contaminated dusts from brownfields. Cleanup of this site will

assist with reducing the potential of exposure to dioxin and the potential negative health effects associated with it.

### (3) Disproportionately Impacted Populations

According to the 2018 Humboldt County Community Health Assessment, Humboldt County residents suffer health disparities when compared to the State of California. County residents experience a higher overall death rate at 804.4 per 100,000 people, compared to 612.2 statewide. The most pronounced health disparity is the outcomes experienced by Native Americans who will die an average of 12 years sooner than Caucasians, and have higher rates of infant mortality, and many other disease related deaths. These disparities stem from federal and local policies that governed the quality of life for Native Americans over the past 400 years. Arcata was part of the ancestral home of the Wiyot tribe, and the tribe has been disproportionately affected by brownfields in the region. In recent years, the tribe has been actively working toward restoration of the bay, and cleanup of brownfield sites that can contribute to contamination of the bay is an important part of the restoration effort.

Per the Census data rates from 2013-2018, the City of Arcata has higher rates of poverty than the State of California. The median household income for the city is almost half that of the state. The County of Humboldt is home to several Native American tribes, and many of these tribal members reside in Arcata. The percentage of Native Americans in Humboldt County is five times the national average. Tribal members suffer disproportionally from high regional unemployment and poverty rates.

## **b. Community Engagement**

### i. Project Involvement and ii. Project Roles

The Arcata community has a strong interest in environmental activities and protecting water quality in Humboldt Bay and the tributaries that flow into it. Due to the varied interest in reuse of the property, and commitment of local environmentally focused non-profit organizations, the City created a group of stakeholders whose role is to assist the city with outreach efforts, and to provide feedback on the assessment, cleanup, and reuse of the Little Lake site.

The stakeholder group consists of; Arcata Dog Park Working Group, Arcata Parks and Recreation Committee, Blue Lake Rancheria, Arcata Economic Development Committee, Friends of the Arcata Marsh, Humboldt Association of Realtors, Humboldt Baykeeper, Northcoast Environmental Center, and the Wiyot tribe. The City has received letters of support for the application from Friends of Arcata Marsh and the Arcata Dog Park Working Group. The Director of Humboldt Baykeeper also spoke in support of the application during the public hearing held October 21, 2020. The City anticipates that additional stakeholders will be identified as we move forward with the cleanup.

### iii. Incorporating Community Input

In light of safety concerns due to COVID-19 the City will focus its outreach efforts on zoom town halls and stakeholder meetings, as well as keeping a robust webpage with up-to-date information housed within the City's site. The City will continue to engage the public in the drafting of the site reuse plan once remediation is completed.

The City will hold at least one stakeholder meeting prior to the beginning of the work to discuss the Site Cleanup Plan and consider community questions and concerns. The City will hold a follow-up zoom meeting after the soil is removed to discuss sample results and next steps in partnership with the City's consulting team. Zoom meetings will be advertised through press releases, social media, and the City's email list-serve.

The City will post regular updates about the cleanup process on the "Current Projects" page on the City website and will update the information quarterly. The City will ensure the results of the testing are posted in a timely fashion and will revisit web page information directly before and after community stakeholder meetings in addition to quarterly updates as needed to ensure information is up to date. In addition to zoom meetings and posted information, the City will issue press releases to let the community know about upcoming stakeholder meetings.

### **3. TASK DESCRIPTIONS, COST ESTIMATES, AND MEASURING PROGRESS**

#### **a. Proposed Cleanup Plan**

A draft version of a Site Cleanup Plan (SCP) has been prepared and distributed for public comment, following a period of public comment the plan will be submitted to the North Coast Regional Water Control Board for approval. The preferred cleanup method is excavation and disposal of contaminant impacted soils from the former kiln area of the mill site. The impacted area extends for approximately 150 feet along I street and is approximately 30 feet in width at the widest point. The proposed excavation depth will range from 3 to 4 feet below existing grade. It is estimated that approximately 460 cubic yards of in-place material will be removed during the excavation program. The actual volume of material removed will depend on the results of the excavation boundary soil sampling.

Upon completion of excavation activities, soil samples will be collected from the excavation sidewalls and floor and submitted for laboratory analysis of dioxins. The excavation area will be left open pending receipt of the conformation soil sampling analytical results. The soil analytical results will be used to assess whether additional soil excavation is needed in order to achieve the site cleanup goals. Once the excavation work is complete, the excavation areas will be backfilled with clean, river-run gravel or other clean fill material and compacted. All excavation and testing activities will be conducted under the existing Quality Assurance Project Plan and Site Health and Safety plan prepared for the Little Lakes project.

Excavated material will be stockpiled and tested for disposal characterization on a frequency of one composite sample (4-point) per 250 cubic yards. Based on the results of the stockpile characterization and profiling, the material will be loaded onto trucks for disposal at an appropriate facility. Using the estimated stockpile volume of 550 cubic yards (460 cubic yards excavated plus 20% expansion) and estimating that trucks used to haul material carry 18 cubic yards, approximately 30 truck-loads will be necessary to remove the material from the site. Each truck leaving the site will be certified to transport hazardous waste and possess a manifest of the material during hauling to the disposal facility. A report of findings for the excavation, sample testing and disposal of impacted soils will be submitted within 90 days of the removal of the soil stockpile.

#### **b. Description of Tasks/Activities and Outputs**

##### **Task 1: Project Management and Planning**

**Task Description:** This task is the overall management and planning of the grant by City staff and will run the duration of the project (2 years). Jennifer Dart with the City of Arcata will be the lead for this task that will include:

- Working with USEPA to complete required paperwork, including quarterly reports
- Development and disbursement of Request for Proposal(s) and/or other materials related to selecting contractors or entering into a contract for the cleanup work.
- Coordinating legal activities for applicable agreements
- Coordinating legal activities for applicable agreements, coordinating with local environmental authorities for on-site disposal plan approval, preparation and recording of institutional controls/deed restrictions. This will be a cost share item, see budget detail table.
- Overall management to ensure effective use of EPA funds

**Deliverables:**

- RFP/ RFQ or other contractor selection documents
- Quarterly progress reports, MBE/WBE reporting
- Approved Site Cleanup Plan
- Final project report

**Task 2: Excavation and Testing Program.**

**Task Description:** Upon approval of the SCP, implementation of the field program will occur within the first year of the grant award under the direction of Erik Nielsen with SHN and include the following:

- Finalize the SCP for approval and coordinating with EPA and RWQCB.
- Site preparation, staging area setup, and fence removal
- Excavation and material stockpiling.
- Verification of contaminant concentrations in the excavation area.
- Excavation area backfilling and permanent fencing reinstalled

**Deliverables:**

- Final Report with excavation, sample testing results and material disposal documentation

**Task 3: Material Disposal**

**Task Description:** Characterization of stockpiled material for disposal acceptance will be conducted within the first year of the grant award under the direction of Erik Nielsen from SHN and will include the following tasks:

- Stockpiled material testing and profiling
- Loading of material for offsite transport
- Disposal at licensed facility

**Task Budget Breakdown:**

- Material Testing, Profiling and Manifesting: \$9,100
- Loading, Transport and Disposal of 700 tons of Material at \$315/ton: \$220,115

**Deliverables:**

- Laboratory testing results for disposal characterization
- Material disposal profile and manifests

- Disposal facility weight tickets

#### **Task 4: Community Involvement**

**Task Description:** The City will communicate with all parties and solicit feedback via its website, direct e-mails to interested parties, community flyers and press releases for the duration of the project under the direction of Jennifer Dart with the City of Arcata. The Community Involvement will be to:

- Provide the public with timely, relevant information and education to improve participation and decision-making
- Build consensus and partnerships among community members, businesses, property owners, and developers
- Prepare for sustainable site redevelopment by engaging/educating the community
- Offer convenient mechanisms for public input on processes and outcomes
- Budget includes funds for travel to community meetings and site visits.

#### **Deliverables:**

- Community Involvement Plan
- Copies of fact sheets
- Press releases & other outreach materials
- Notes/summaries from outreach meetings and workshops
- Hard copies of web pages developed as part of the outreach process

#### **c. Cost Estimates**

<b>Budget Categories</b>		<b>Project Tasks (\$)</b>				<b>Total</b>
		(Task 1) Project Oversight	(Task 2) Excavation & Testing	(Task 3) Offsite Disposal	(Task 4) Community Involvement	
Direct Costs	Personnel	\$5,200	\$2,500	\$1,600	\$2,240	\$11,540
	Fringe Benefits	\$2,500	\$1,100	\$725	\$1,060	\$5,385
	Travel <sup>1</sup>					
	Equipment <sup>2</sup>		\$4,800	\$1,600		\$6,400
	Supplies		\$6,000			\$6,000
	Contractual		\$24,625	\$183,330	\$2,720	\$210,675
	Other (include subawards)					
Total Direct Costs <sup>3</sup>		\$7,700	\$39,025	\$187,255	\$6,020	\$240,000
Indirect Costs <sup>3</sup>		\$0	\$0	\$0	\$0	\$0
<b>Total Federal Funding</b> (not to exceed \$500,000)		\$7,700	\$39,025	\$187,255	\$6,020	\$240,000
<b>Cost share</b> (20% of requested federal funds) <sup>4</sup>		\$1,930	\$9,760	\$46,810	\$1,500	\$60,000
<b>Total Budget</b> (Total Direct Costs + Indirect Costs + Cost Share)		\$9,630	\$48,785	\$234,065	\$7,520	\$300,000
Travel to brownfields-related training conferences is an acceptable use of these grant funds.						
<sup>2</sup> EPA defines equipment as items that cost \$5,000 or more with a useful life of more than one year.						

Items costing less than \$5,000 are considered supplies. Generally, equipment is not required for Brownfield Grants.

<sup>3</sup> Administrative costs (direct and/or indirect) for the Cleanup Grant applicant itself cannot exceed 5% of the total EPA-requested funds.

#### **d. Measuring Environmental Results**

- A progress report will be prepared quarterly to evaluate compliance with the approved scope, schedule, and milestones. Key Milestones include: contracting, submittal of the project Management Plan, Final SCP, submittal of quarterly reports, positive community outreach operations, and submittal of the Final Project Report.
- Outcomes will be tracked and measured by tabulating the tasks that have been completed and will be reported in the quarterly monitoring reports.
- A summary of completed tasks and outputs will be tabulated in the Final Project Report.

### **4. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE**

#### **a. Programmatic Capability**

##### i. Organizational Structure and ii. Description of Key Staff

The City has a fairly small staff yet has successfully managed EPA and other Federal, State, and local grant funded projects. A collaborative approach using the City's administrative and public works department and an engineering contractor to guide the cleanup activities has proven effective to manage all technical, administrative and financial requirements of the project and grant within required timeframes. Key staff members on the project team are listed below.

<b>Title</b>	<b>Name</b>	<b>Point of contact (name, email, phone)</b>	<b>Specific involvement in the project or assistance provided</b>
Grantee Project Manager	Jennifer Dart Deputy Director of Community Development, City of Arcata	707-825-2112 jdart@cityofarcata.org	Planning and management of all aspects of project
Contractor Project Manager	Erik Nielsen, PG, CHG, SHN	707-441-8855 enielsen@shn-engr.com	Oversight of project planning, implementation, budgeting, communication with client and funding entity
Contractor QA Officer	Roland Rueber, PG, SHN	707-441-8855 rrueber@shn-engr.com	Ensuring proper implementation of procedures, data collection and reporting
Laboratory QA Officer	Yen Cao, McCampbell Analytical, Inc	877-252-9262 yen.cao@mccampbell.com	All aspects of MAI quality assurance.

##### iii. Acquiring Additional Resources

To the extent required by the procurement provision of the city and EPA regulations, the city will conduct price analysis and procure contracts for services.



**b. Past Performance and Accomplishments****i. City Currently Has Received one EPA Brownfields Grant**

<b>Year Awarded, Amount &amp; Purpose</b>	<b>Output, Outcomes, Measures of Success</b>	<b>Compliance, Schedule, and Completion</b>
2017 – \$300,000 Community Wide Assessment Grant (\$94,000 funds remaining)	Through this grant, Phase I and Phase II ESAs were conducted. The primary emphasis of this grant was to assess data gaps associated with the former LLI mill and develop a plan for site cleanup. Results of the assessment have been posted on the State of California Geotracker database.	The City submitted quarterly reports on project progress and conducted ACRES reporting as specified by grant conditions. All field components associated with the grant have been completed. An extension of the grant was received in 2020 to address remediation planning with remaining grant funds.

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
BROWNFIELD CLEANUP PROGRAM**

**THRESHOLD CRITERIA RESPONSE**

**1. Applicant Eligibility**

The applicant is the City of Arcata and thus eligible to apply for this Grant (DUNS # 00-494-0821).

**2. Previously Awarded Cleanup Grants**

The former Little Lake Industries Mill Site (LLI) has not received funding from a previously awarded EPA Brownfields Cleanup Grant.

**3. Site Ownership**

The City of Arcata holds the deed and is the sole owner of the proposed cleanup site.

**4. Basic Site Information**

This grant application is being submitted for the former Little Lake Industries Mill Site (LLI), located in the City of Arcata (95521), in Humboldt County, California. The LLI site consists of two parcels located at 46 South "I" Street (APN 503-232-013 and 503-232-004). Both parcels are owned by the City of Arcata.

**5. Status and History of Contamination at the Site**

The Little Lake Industries property is comprised of approximately 12 acres bordered by a creek, slough, paved street, open space, and commercial property. Jolly Giant Creek is located along the eastern and southern portions of the property boundary and flows south to Butcher's Slough and eventually to Humboldt Bay. The site is contaminated by hazardous substances (dioxins), which are the focus of this cleanup application.

From 1950 to 1988, the site was primarily used for timber-related operations that included log storage, milling, and drying. Structures on the site consisted of a remanufacturing complex, kilns, maintenance shed, boiler building, drying shed, conical burner, and office building. No report of wood treatment occurred at the LLI site; however, chemicals associated with treated wood have been identified. Prior to 1950, the area was used for agricultural purposes.

The City of Arcata acquired the property in 2001, at which time the abandoned structures of kiln building, drying shed and associated boiler remained in the northern portion of the site. Contamination issues for the kiln buildings were identified in surface coating on the inside of the kiln and drying shed buildings, which contained elevated levels of dioxins. The City oversaw demolition and disposal of the kiln area buildings, their foundations and the boiler house in October and November 2009.

Two targeted brownfields assessments have been completed at the site by Weston Solutions (December 2002 and April 2004). These initial investigations determined that the primary contaminants of concern were lead, diesel, semi volatile organic compounds and dioxins but did

not identify the lateral extents of contamination. In 2019 a Site Investigation and Data Gaps Work Plan was developed and implemented under EPA funding to further assess the extent of contamination in soil and groundwater at the site. The site investigation Report of Findings dated October 31, 2019, summarized results of the investigation and determined contaminant levels present at the site were below regulatory thresholds for all contaminants of concern excluding dioxins in the former kiln buildings area. In April 2020 an additional round of soil sampling was conducted under EPA funding in the former kiln area along the western border of the property to better define the lateral extent of contamination.

The results of these investigations show that dioxin impacts to soil appear to be concentrated along the northwest perimeter of the former kiln buildings, along the property boundary with South “I” Street. Soil sample results show that there are minimal impacts outside of the former kiln building area and provide support for a southern and eastern boundary on contamination. Dioxin impacts are within shallow fill soils 2.0 and 3.0 feet below ground surface.

A draft Site Cleanup Plan (SCP) has been prepared for the LLI site under the existing assessment grant for submittal to the North Coast Regional Water Control Board and EPA. The preferred cleanup method from the alternatives analysis in the SCP is excavation and disposal of contaminant impacted soils from the former kiln area of the mill site. The impacted area extends for approximately 150 feet along I street and is approximately 30 feet in width at the widest point. The proposed excavation depth will range from 3 to 4 feet below existing grade. It is estimated that approximately 460 cubic yards of in-place material will require removal during the excavation program. The actual volume of material removed will depend on the results of the excavation boundary soil sampling.

## **6. Brownfields Site Definition**

The City of Arcata affirms the projects site meets the definition of a Brownfield by the following:

- a. The Little Lakes Industries site is not listed or proposed for listing on the National Priorities list.
- b. The site is not subject to unilateral administrative orders, court orders, administrative orders on consent, or judicial consent decrees issued to or entered into by parties under CERCLA
- c. The Little Lakes site is not subject to the jurisdiction, custody, or control of the U.S. government.

## **7. Environmental Assessment Required for Cleanup Grant Applications**

Site assessments completed for the LLI mill site have included:

- **December 2002** - Targeted Brownfields Assessments completed by Weston Solutions for site-wide contaminants of concern (Weston, 2003).
- **April 2004** – Targeted Brownfields Assessment IIB completed by Weston Solutions to further evaluate contaminants of concern identified at the site (Weston, 2004)
- **April and July 2019** - Data Gaps investigation for site-wide contaminants of concern and assessment step-out borings completed by SHN (SHN, 2019)

- **February 2020** – Kiln Buildings area soil delineation for dioxin impacts completed by SHN (SHN, 2020)

Information collected during the assessments and delineation of the kiln buildings dioxin impacts to soil has resulted in preparation of a draft Site Cleanup Plan currently available for public review. Upon completion of comment review period the document will be submitted to the Regional Water Quality Control Board for review and approval. Receipt of cleanup grant funding for the former Little Lake Industries Mill is expected to be the final component to address environmental issues associated with historical use and enable the property to move forward with planned redevelopment.

## **8. Enforcement or Other Actions**

There are no known ongoing or anticipated environmental enforcement or other actions related to the parcels for which Brownfields Grant funding is sought.

## **9. Sites Requiring a Property-Specific Determination**

The site does not meet any of the listed criteria and therefore does not need a Property-Specific Determination.

## **10. Threshold Criteria Related to CERCLA Liability**

### **a. Property Ownership Eligibility – Hazardous Substance Sites**

**ii). Exemption to Meeting the Requirements for Asserting an Affirmative Defense to CERCLA Liability**

#### **(1) Publicly Owned Brownfield Sites Acquired Prior to January 11, 2002**

The LLI Site is eligible for a Brownfields cleanup grant based on the City of Arcata acquiring the parcels prior to January 11, 2002. The recorded title date for the property transfer to the City of Arcata is July 25, 2001. The former Little Lake Industries mill site was acquired to eliminate blight and create economic development.

The City did not arrange for the disposal of hazardous substances at the LLI site or transport hazardous substances to the site and did not cause or contribute to any releases of hazardous substances at the site. All impacts to the site from use of hazardous substances occurred prior to the City acquiring the property.

## **11. Cleanup Authority and Oversight Structure**

The preferred cleanup alternative involves the removal of hazardous waste from the identified area of impact through excavation. All material handling will be performed under the supervision of a licensed professional and a site safety officer and conducted in accordance with the approved Site Cleanup Plan and Health and Safety Plan. The former LLI mill is a Listed site under the regulatory authority of the North Coast Regional Water Quality Control Board. All documents related to site activities under the current Assessment grant have been completed by a licensed professional, and submitted to the State of California Geotracker database for agency approval.

The project manager for SHN Consulting Engineers and Geologists, Inc. designated to oversee this work is a licensed professional geologist and certified hydrogeologist with over 26 years of experience in environmental compliance and remediation. SHN has worked with the City of Arcata staff to successfully complete numerous environmental cleanup projects over the years. Incorporating aspects of the project plans from verification sampling to monitoring worker conditions has always been adhered to. SHN will additionally incorporate senior staff for assurance of quality control in field procedures, reporting, and laboratory testing.

The site is vacant and undeveloped and not adjacent to neighboring properties occupied by residences. Impacts from planned site work will be partial blockage to a paved road which will have cautionary postings and temporary fencing in place for vehicle and pedestrian traffic. The primary safety concern for this work is heavy equipment operation and the potential exposure to airborne dust migration. The project area will have strict controls for access of personnel and a “no visible dust” policy through the application of water during all material handling for dust suppression.

## **12. Community Notification**

### **a. Draft Analysis of Brownfield Cleanup Alternatives**

The Site Cleanup Plan contains an Alternative Analysis for Cleanup (attached). It is in the process of being reviewed by the community and stakeholders and the city is currently accepting comments. It is currently located on the City website.

### **b. Community Notification Ad**

The public hearing notification is attached.

### **c. Public Meeting**

#### **• Summary of Public Comments received:**

- Letter of support from Alex Stillman, member, Friends of the Arcata Marsh
- Letter of support from Elliott Dabill, President, Friends of the Arcata Marsh
- Public comment was received from Jennifer Kalt, Director of Humboldt Baykeeper during the public hearing supporting the application for EPA Brownfield Cleanup funds for Little Lake site. She said that she was thrilled that this was moving forward and thanked staff for being proactive and working with Humboldt Baykeeper to get input and looks forward to working with the city to get the property cleaned up.
- Public comment from Jane Woodward, community member, supporting the application for EPA Brownfield cleanup funds for Little Lake site.
- Letter of support from Marni Lefevre, with Arcata Dog Park Working Group

#### **• Applicant’s response to those comments:**

Council thanked each speaker for their support of the Little Lake application, and adopted resolution 201-19 authorizing the application for the United States Environmental Protection Agency Cleanup Grant Program for Hazardous Substance Remediation at the Little Lake Industries Site located at 46 South “I” Street.

#### **• Meeting notes or a summary of the public meeting:**

City Council heard a staff report from Community Development Deputy Director, Jennifer Dart about the proposed Site Cleanup Plan and application for EPA Brownfield cleanup grant. Community Development Director, David Loya pointed to the 14-page data summary that was attached to the staff report and discussed the testing that was done. The Council did not have any questions of staff after receiving the report. Council heard public comment from two members of the public and took action to adopt resolution 201-19 (attached).

- **Meeting sign-in sheets/participant list:**

The public hearing was held during the regularly scheduled City Council Meeting on October 21, 2020. The meeting was held via zoom due to COVID restriction. The city does not require sign in of public members at City Council meetings. The two members of the public who gave public comment were Jennifer Kalt and Jane Woodward.

### **13. Statutory Cost Share**

a. Cleanup costs for the kiln buildings area at the former Little Lake Industries Mill is estimated to be \$300,000. The 20% cost share amount for the City of Arcata is \$60,000. The cost share amount will be met through a contribution of labor, equipment, materials and money. City staff will provide labor and equipment operations for the field program that will include site setup, fence removal/replacement, traffic controls, excavation and stockpiling, material loading for disposal, stormwater controls implementation and site restoration.

b. The City of Arcata is not requesting a cost share waiver.

# Site Cleanup Plan

Former Little Lake Industries Mill  
Arcata, California  
Case No. 1NHU018

Prepared for:

City of Arcata

October 2020

018022.040



Phone: (707) 441-8855 Email: [info@shn-engr.com](mailto:info@shn-engr.com)  
Web: [shn-engr.com](http://shn-engr.com) • 812 W. Wabash Avenue, Eureka, CA 95501-2138



Phone: (707) 441-8855 Email: info@shn-engr.com Web: shn-engr.com  
812 W. Wabash Avenue, Eureka, CA 95501-2138

Reference: 018022.040

October 14, 2020

Paul Nelson  
North Coast Regional Water Quality Control Board  
5550 Skylane Blvd., Suite "A"  
Santa Rosa, CA 95403

**Subject: Site Cleanup Plan, Former Little Lakes Industries Mill, Arcata California,  
Case #1NHU018**

Dear Paul Nelson:

Enclosed is the Site Cleanup Plan for the former Little Lake Industries Mill site located on South "I" Street, in Arcata, California. This plan includes a description of current conditions, proposed cleanup goals, a brief evaluation of remedial options, and a work plan for site remediation. SHN has prepared this work on behalf of the City of Arcata under Brownfields grant funding from the United States Environmental Protection Agency.

Respectfully submitted,

**SHN**

Erik J. Nielsen, PG, CHG  
Project Manager

EJN:MLC:lam

Enclosures: Report and Work Plan



# Site Cleanup Plan

## Former Little Lake Industries Mill Arcata, California Case No. 1NHU018

Prepared for:  
City of Arcata

Prepared by:



812 W. Wabash Ave.  
Eureka, CA 95501-2138  
(707) 441-8855

October 2020

QA/QC: EJV\_\_

Reference: 018022.040

# Table of Contents

	Page
Table of Contents .....	i
List of Illustrations .....	i
Abbreviations and Acronyms .....	ii
1.0 Introduction .....	1
1.1 Site Description .....	1
1.2 Site History and Operations .....	1
2.0 Environmental Conditions .....	1
2.1 Previous Environmental Actions .....	2
2.2 2019 Data Gaps Investigation .....	2
2.3 2020 Kiln Area Step-Out Program .....	3
3.0 Remedial Action Alternatives .....	3
4.0 Remedial Action Work Plan .....	4
4.1 Objectives .....	4
4.2 Scope of Work .....	5
5.0 Field Implementation .....	5
5.1 Soil Excavation .....	5
5.2 Excavation Confirmation Sampling .....	5
5.3 Laboratory Analysis .....	6
5.4 Equipment Decontamination Procedures .....	6
6.0 Soil Disposal .....	6
7.0 Reporting .....	6
8.0 References .....	7

## Appendix 1, Historical Data

## List of Illustrations

Figures	Follows Page
1. Site Location Map .....	1
2. Site Plan with Structure Locations .....	1
3. Site Plan with Sample Locations .....	2
4. Dioxin Sample Results, Former Kiln Area .....	3
5. Planned Excavation, Former Kiln Area .....	5
6. Excavation Area Confirmation Sample Locations, Kiln Area Buildings .....	5



# Abbreviations and Acronyms

## Units of Measure

pg/g                      picograms per gram

## Additional Terms

APN	Assessor's parcel number
BGS	below ground surface
BMPs	best management practices
DOT	Department of Transportation
DTSC	Department of Toxic Substance Control
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
FES	Freshwater Environmental Services
HASP	health and safety plan
HHRA	Human Health Risk Assessment
ITSI	Innovative Technical Solutions, Inc.
LLI	Little Lake Industries Mill Site
PCP	pentachlorophenol
QAPP	quality assurance project plan
RWQCB	North Coast Regional Water Quality Control Board
SAP	sampling and analysis plan
SCP	Site Cleanup Plan
STLC	soluble threshold limit concentration
SWRQB	California State Water Resources Control Board
TBA	targeted Brownfields assessment
TCLP	toxicity characteristic leaching procedure
TEQ	total toxicity equivalence
TPHD	total petroleum hydrocarbons as diesel
TCDD	tetrachlorobenzene-p-dioxin
TP	test pit
TPHMO	total petroleum hydrocarbons as motor oil
UST	underground storage tanks
W&K	Winzler and Kelly



## 1.0 Introduction

On behalf of the City of Arcata, SHN has prepared this site cleanup plan (SCP) for remediation activities at the former Little Lake Industries Mill Site (LLI), in Arcata, California (Figure 1). Previous investigation activities conducted at the site to assess contamination associated with historical use have identified dioxins at concentrations above permissible thresholds in the former kiln area. This SCP summarizes current conditions and outlines methods planned for implementation during site cleanup activities. This work is funded by a U.S. Environmental Protection Agency (EPA) Brownfields grant. The City intends to redevelop this site for mixed public/private use.

### 1.1 Site Description

Historically referred to as the South "I" Street Mill, the property consists of three parcels (Assessor's parcel number [APN] 503-251-014, 503-232-013, and 503-232-004) located south of Samoa Boulevard in Arcata, California (Figure 2). The LLI site is comprised of two parcels at 46 South "I" Street and the Johnson Tract (APN 503-251-014), which is located west of LLI, across South "I" Street. The City of Arcata currently owns all former South "I" Street mill parcels.

The LLI property is comprised of approximately 12 acres that is bordered by a creek, slough, paved street, open space, and commercial property (Figure 2). Jolly Giant Creek is located along the eastern and southern portions of the property boundary and flows south to Butcher's Slough and eventually to Humboldt Bay. Elevation of the site is approximately 10 feet above mean sea level and surface topography gently slopes east toward Jolly Giant Creek. Subsurface conditions at the site generally consist of river-run gravel with silt that grades with depth to (predominantly) silt (W&K, April 1998). Groundwater at the site has been reported at a depth of 2 to 3 feet below ground surface (BGS) and flows toward the creek.

### 1.2 Site History and Operations

From 1950 to 1988, the site was primarily used for timber-related operations that included log storage, milling, and drying. The Johnson Structures on the site consisted of a remanufacturing complex, kilns, maintenance shed, boiler building, drying shed, conical burner, and office building. No report of wood treatment occurred at the LLI site; however, chemicals associated with treated wood have been identified. Prior to 1950, the area was used for agricultural purposes.

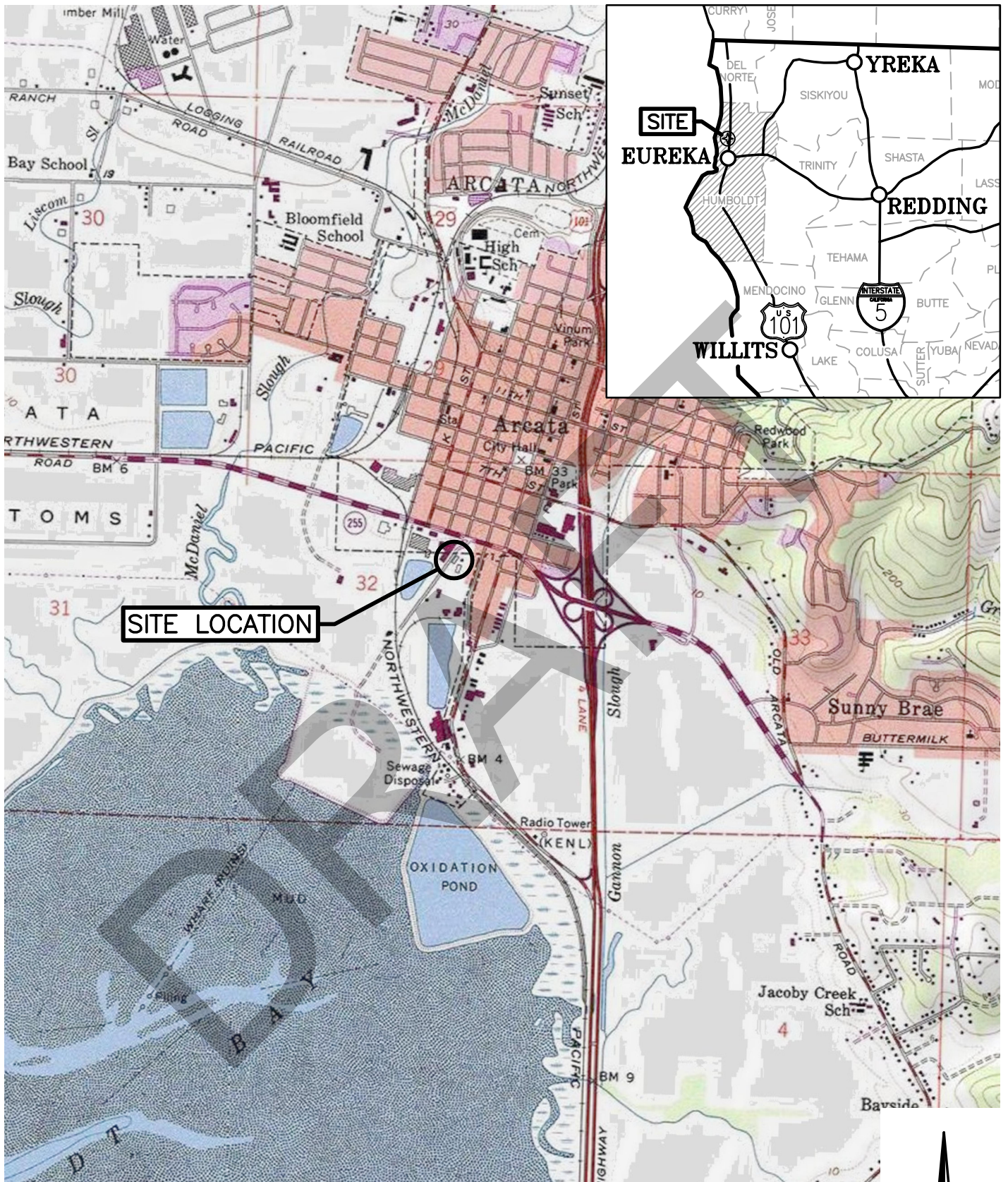
The City of Arcata acquired the property in 2001, and by 2010, all structures located on the property had been removed. The site currently consists of building foundations and footings, bare ground, vegetated areas, and various stockpiles of soil and gravel.

## 2.0 Environmental Conditions

Several investigations of soil and groundwater have been performed to assess known releases and potential impacts from mill operations starting from the late 1980s under the oversight of the North Coast Regional Water Quality Control Board (RWQCB). Results of the investigations were provided in subsequent reports that are publicly available on the California State Water Resource Control Board (SWRCB) GeoTracker website. A detailed summary of the historical site conditions in the site conditions report and data gaps investigation work plan (SHN, August 2018). This property is a Brownfields site that has received funding grants from the EPA for assessment activities.







SOURCE: ESRI



City of Arcata  
Former Little Lake Industries Mill  
Arcata, California

Site Location Map

SHN 018022.040

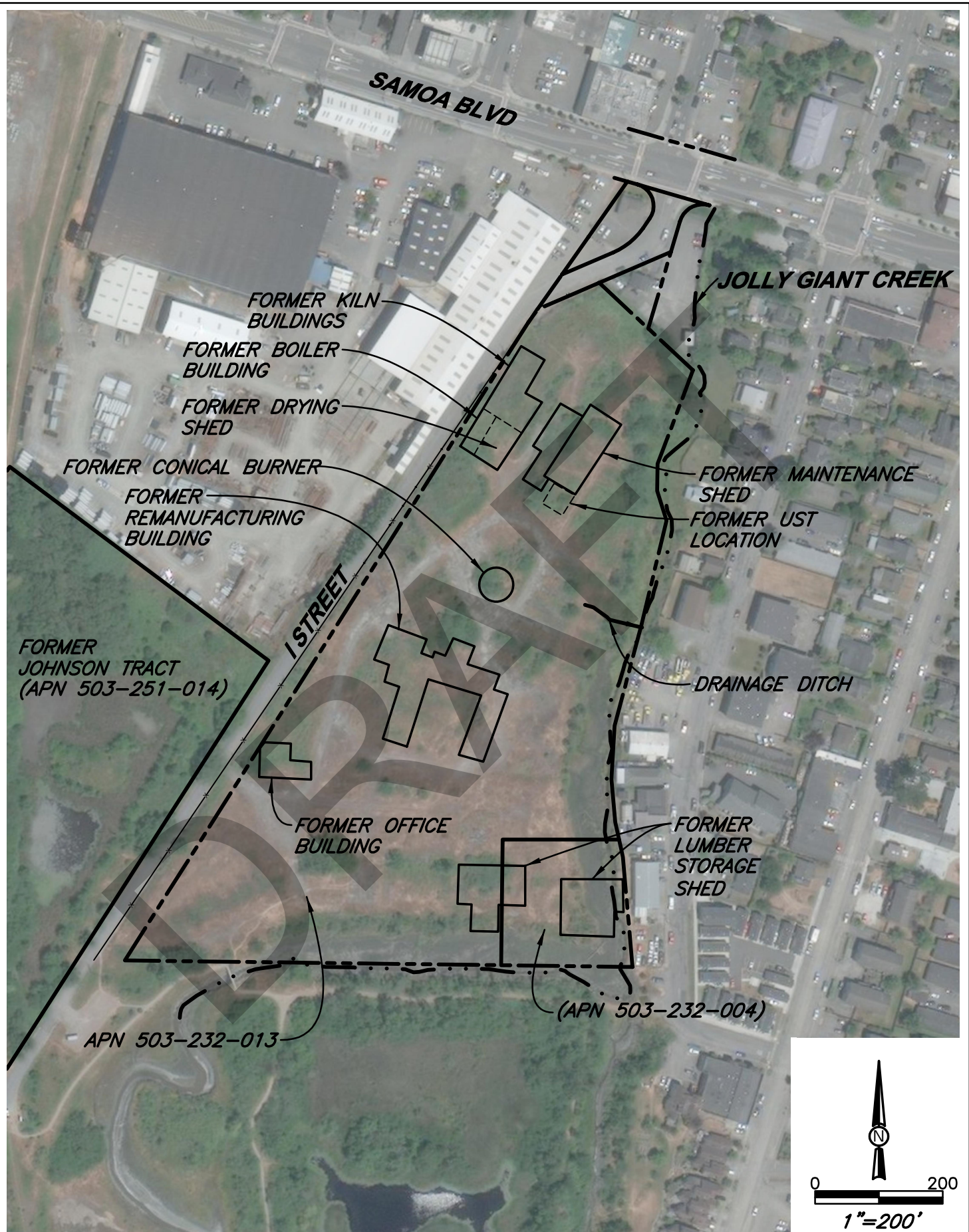
October 2020

018022-040-SITE-LCTN

Figure 1



\\saureka\Projects\2018\018022-Arcata-BF\040-LL-Rem-Plan-Dwgs\_SAVED: 10/12/2020 10:30 AM CNEWELL, PLOTTED: 10/12/2020 10:30 AM NEWELL, CHRIS



City of Arcata  
Former Little Lake Industries Mill  
Arcata, California

Site Plan with  
Historic Structure Locations  
SHN 018022.040

October 2020

018022-040-SITE

Figure 2

## 2.1 Previous Environmental Actions

Events of significance are listed below; however, the focus of this SCP is the area of planned remediation at the former kiln structures. Historical soil and groundwater samples locations at the LLI site are shown on Figure 3 and analytical testing results are provided in Appendix 1.

**Underground storage tanks (USTs) Investigation:** Two 1,000-gallon underground storage tanks (USTs) installed in 1959 for diesel fuel were removed from the former Maintenance Building area in August 1987 (W&K, 1991). Approximately 200 cubic yards of soil was removed, and groundwater monitoring was initiated for this area. The UST site received closure from the RWQCB in March 2000 (RWQCB, 2000).

**Phase I environmental site assessments (ESAs):** Winzler and Kelly in 1998 (W&K, April 1998) and Innovative Technical Solutions, Inc. in 2002 (ITSC, 2002).

**Targeted Brownfields Assessment (TBA):** Two TBAs of the site were completed by Weston Solutions in December 2002 (Phase II) and April 2004 (Phase IIB) to determine if soil and groundwater at the site were impacted by contaminants from historical use (Weston, 2003 and 2004).

**Stockpile Sampling:** Two sampling events have been conducted at LLI for stockpile characterization (Weston in 2002 and SHN in 2007). Results from the stockpiles samples indicated that low levels of total petroleum hydrocarbons as diesel (TPHD) and motor oil (TPHMO), and some metals were present and that the material was suitable for reuse at the site with placement controls.

**Kiln Demolition and Disposal:** In October and November 2009, demolition and disposal of the kiln buildings, their foundations and the boiler house located in the northwest corner of the site occurred. Contamination issues for the kiln buildings were identified in surface coating on the inside of the buildings, which contained elevated levels of dioxins.

**Sampling and Analysis Plan (SAP):** completed by Freshwater Environmental Services (FES) to consolidate historical site information and summarize their findings for additional investigation work at LLI (FES, 2016). Implementation of the 2016 SAP did not occur.

Results from the previous investigations at LLI indicated certain metals, petroleum hydrocarbons, pentachlorophenol (PCP), dioxin, and furans warranted further evaluation.

## 2.2 2019 Data Gaps Investigation

Work was conducted at the site in March and July 2019 to address the identified data gaps in accordance with the December 2018 site investigation work plan (SHN, 2018) and subsequent SAP Addendum (SHN, June 2019). Eleven test pits and nine soil borings were completed as part of the investigation. Soil samples were collected from each test pit and temporary well points were installed at each boring location for the collection of groundwater samples for chemical analysis.

Results of the 2019 site investigation showed soil samples collected from test pits in the location of the former kiln buildings recorded elevated dioxin/furan total toxicity equivalence (TEQ) concentrations (SHN, June and October 2019). A water sample collected from the drainage ditch in this area of the former kiln buildings additionally contained elevated dioxin/furan TEQ concentrations. Almost all other



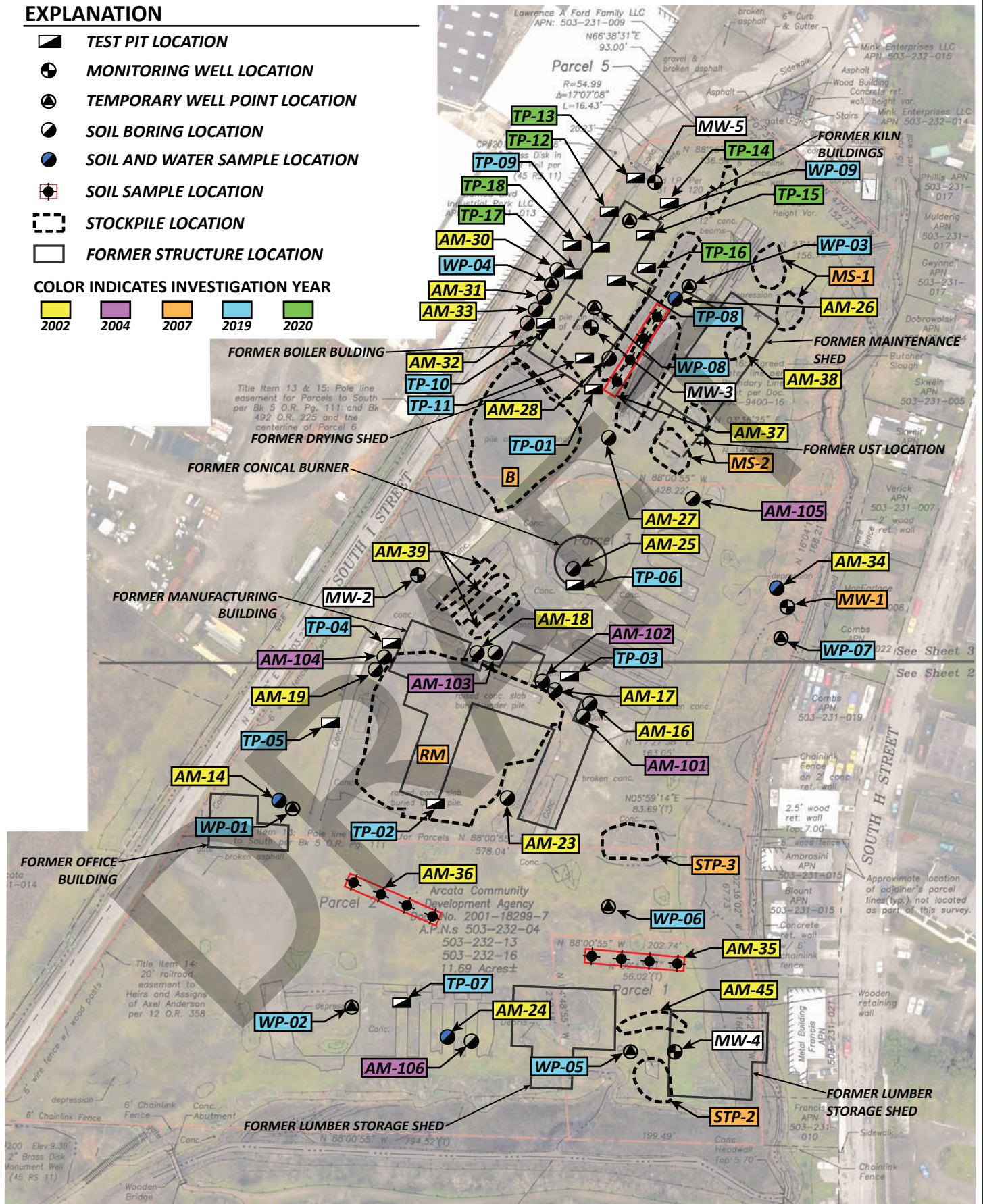


## EXPLANATION

- TEST PIT LOCATION
- MONITORING WELL LOCATION
- TEMPORARY WELL POINT LOCATION
- SOIL BORING LOCATION
- SOIL AND WATER SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- STOCKPILE LOCATION
- FORMER STRUCTURE LOCATION

COLOR INDICATES INVESTIGATION YEAR

- |      |      |      |      |      |
|------|------|------|------|------|
|      |      |      |      |      |
| 2002 | 2004 | 2007 | 2019 | 2020 |



NOTE: ALL SAMPLE LOCATIONS ARE APPROXIMATE  
BASEMAP FROM SOUSA LAND SURVEYS, "TOPOGRAPHIC SURVEY FOR ARCATA COMMUNITY DEVELOPMENT OF THE LITTLE LAKES SITE", DATED FEB 11, 2012



City of Arcata  
Former Little Lake Industries Mill  
Arcata, California

Site Plan with  
Sample Locations  
SHN 018022.030

October 2020

Figure3\_SitePlan

Figure 3



constituents of concern tested during the LLI site investigation program were either non-detect, below applicable environmental screening levels or within the range of background concentrations for the area.

## 2.3 2020 Kiln Area Step-Out Program

During correspondence for 2019 results with the RWQCB and EPA, it was determined that additional testing for soils in the kiln building area would be required to specifically delineate dioxin concentrations. Based on contaminant levels observed in soil and groundwater at the remainder of the site, no further evaluation outside the kiln area would be warranted. A second step-out program was developed that included completion of seven test pits (TP-12 through TP-18) for soil sample collection in the northern kiln building area (RWQCB, 2019). The step-out field program was conducted at the LLI former Kiln area on March 11, 2020, with results provided in the report of findings addendum 1 (SHN, 2020).

The LLI site investigation and subsequent step out sampling program identified dioxins in soil at the former kiln area that appear to be concentrated along the northwest perimeter of the former kiln buildings, along the property boundary with South "I" Street. The general area of dioxin impacted soil is outlined in Figure 4. Soil sample results show that there are minimal impacts outside of the former kiln building area and provide support for a southern and eastern boundary on contamination. Dioxin impacts are within shallow fill soils 2.0 and 3.0 feet BGS; however, no samples were collected below this depth.

TEQ values calculated for soil samples from test pits TP-13 and TP-18 exceeded Department of Toxic Substances Control (DTSC) soil remediation goals for residential soils (DTSC, 2017). TEQ values calculated for soil samples from test pits TP-09 and TP-12 exceeded the lower range for DTSC remediation goals for commercial/industrial soils at 220 picograms per gram (pg/g). No TEQ value in soil exceeded the high-end range for DTSC commercial/industrial remediation goals (700 pg/g). All dioxin testing results were reported at concentrations below DTSC residential soil screening levels for 2,3,7,8-tetrachlorobenzene-p-dioxin (TCDD) at 4.8 pg/g (DTSC 2020).

## 3.0 Remedial Action Alternatives

This section briefly discusses three potential remedial options for the site. The goal of the remediation is to prevent contaminant exposure to potential receptors above the identified screening levels and restore beneficial use of the site under the current zoning of "Waterfront Commercial." Three options were considered and are as follows:

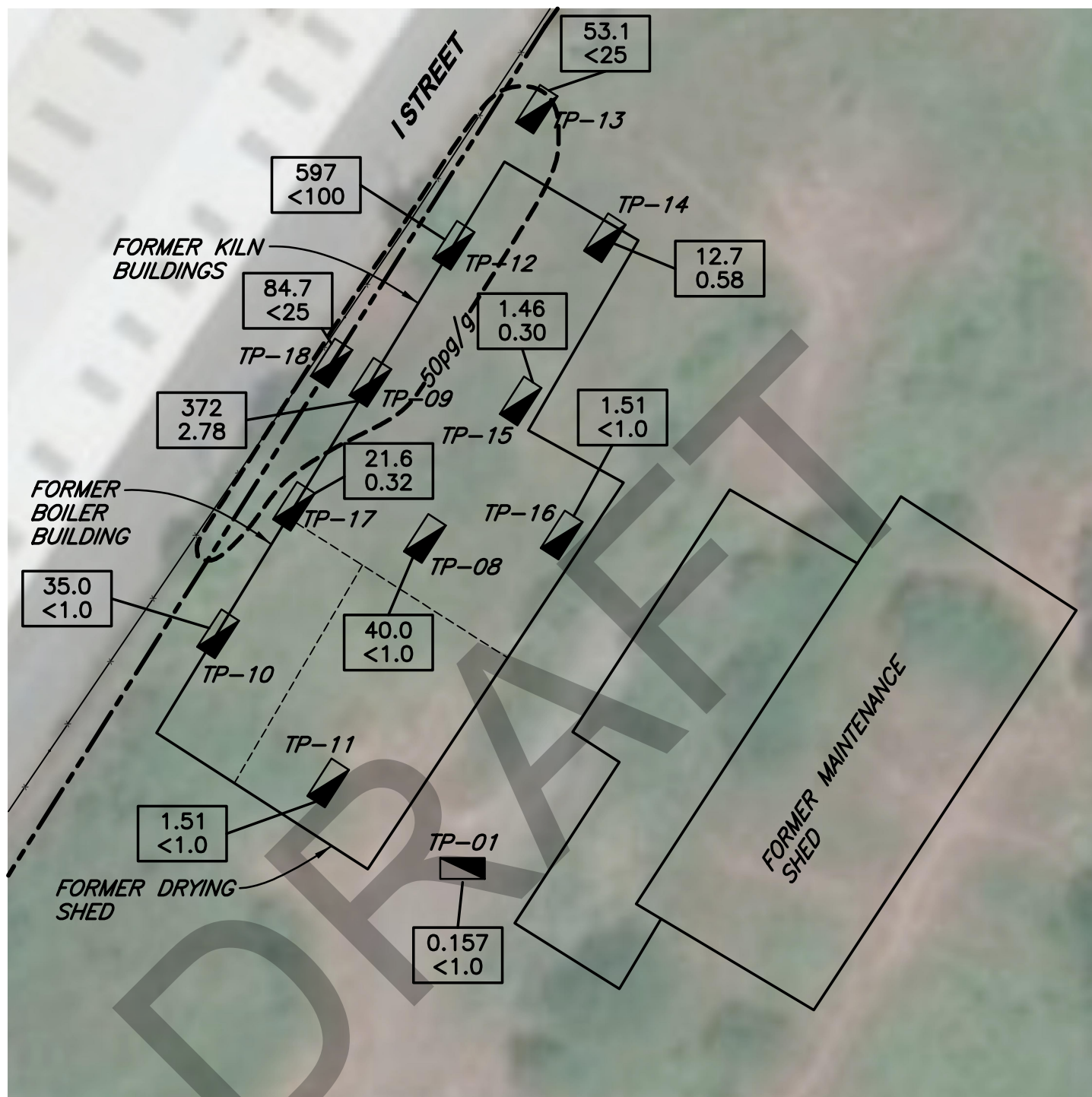
1. Detailed Risk Assessment
2. Excavation and Disposal of Contaminated Soils
3. Soil Cap and/or Access Control

### 3.1 Alternative 1: Detailed Risk Assessment

Under this alternative, a detailed risk evaluation would be performed to identify all potential exposure pathways and risk factors for potential receptors. The evaluation would consist of complete horizontal and vertical definition of each impacted area, an assessment of potential leaching of contaminants from impacted soil, and an assessment of all potential exposure pathways and receptors. The outcome of



\\laureka\Projects\2018\018022-Arcata-BF\040-LL-Rem-Plan\Drawgs, SAVED: 10/12/2020 10:41 AM CNEWELL, PLOTTED: 10/12/2020 10:41 AM, NEWELL, CHRIS



## EXPLANATION



TEST PIT LOCATION

TP-01

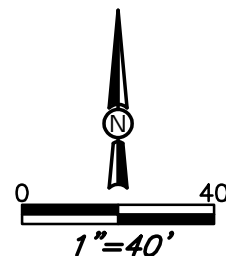
40.0 <1.0
--------------

TEQ (WHO 05)  
2,3,7,8-TCDD } RESULTS IN pg/g

<

CONCENTRATION BELOW REPORTING LIMIT

----- DIOXIN TEQ 50 pg/g (APPROXIMATE)



City of Arcata  
Former Little Lake Industries Mill  
Arcata, California

Dioxin Sample Results  
Former Kiln Area  
SHN 018022.040

October 2020

018022-040-DIOXIN-FRMR-KILN

Figure 4

the evaluation would be to determine the risk of leaving all the impacted soil in place, while protecting the potential receptors. After the evaluation, it is possible that select areas may require no further action, although remediation may ultimately be necessary depending on the results of the evaluation.

### 3.2 Alternative 2: Excavation and Disposal of Contaminated Soils

This alternative would consist of excavating impacted soil with contaminant concentrations substantially above the residential TEQ screening level for dioxins (50 pg/g). Soil would be temporarily stockpiled onsite and then transported to a disposal facility after necessary analytical testing was completed. Samples would be collected to confirm final site conditions and the area would be backfilled with clean material. Alternative 2 is the preferred remedial action.

### 3.3 Alternative 3: Soil Cap or Access Restriction

This alternative would consist of capping the site soils with either permeable or impermeable materials or fencing off select areas to restrict access and potential human exposure to contaminants identified in site soils.

### 3.4 Evaluation Criteria

Alternative 2 is the preferred remedial action because it best fulfills the following requirements:

- Regulatory compliance—addresses federal and state regulatory criteria.
- Long-term effectiveness—permanently removes impacted media from the site.
- Overall protection of human health and the environment—complies with regulatory criteria, short-term effectiveness, and long-term effectiveness.
- Reduction of toxicity, mobility, and volume through removal—permanently reduces the toxicity, mobility, and volume of contaminated media.
- Implementation—is technically feasible.
- Schedule—implementation and reporting can be completed within a reasonable timeline.
- Cost—utilizes conventional methods that are not cost prohibitive.

## 4.0 Remedial Action Work Plan

In addition to this SCP, the project SAP, quality assurance project plan (QAPP), and a health and safety plan (HASP) developed for this site will be followed for site cleanup activities and documentation.

### 4.1 Objectives

The objectives of the work outlined in this SCP are to:

- Excavate impacted soils and temporarily stockpile impacted soils on site.
- Conduct analytical testing within the excavation boundaries to ensure contaminated soils have removed.
- Coordinate the transport of impacted soils to a permanent disposal facility.



The removal of impacted soil will prevent potential human exposure and prevent the migration of contaminants in site soil into site groundwater.

## 4.2 Scope of Work

This scope of work is intended to meet the objectives of this investigation. All work will be conducted in accordance with this SCP, the SAP, and HASP developed for this project. The scope of work is defined as:

- Project implementation, including subcontractor coordination and agency notification
- Excavation and stockpiling of contaminated soil
- Soil sample collection within the excavation boundaries
- Proper characterization of stockpiled soil for disposal
- Offsite transport and disposal of impacted soil
- Excavation backfilling and compaction
- Preparation of a report of findings for excavation activities

## 5.0 Field Implementation

### 5.1 Soil Excavation

Soil will be excavated using a backhoe or excavator in the area shown in Figure 5. The soil will be transported to the onsite stockpile area, placed on 6-mil Visqueen® and will be covered with 6-mil Visqueen® at the end of each day. The stockpile will be placed in a secured area of the site and maintained under proper best management practices (BMPs) until removal.

The planned excavation surface area is slightly sloped toward "I" Street and has a shallow drainage ditch on the southern boundary. The area extends for approximately 150 feet along "I" Street and is approximately 30 feet in width at the widest point. The proposed excavation depth will range from 3 to 4 feet BGS. The fence located along the property boundary and the paved surface of "I" Street will be removed to facilitate the extent of the excavation area shown in Figure 5. It is estimated that approximately 460 cubic yards of in-place material will be removed during the excavation program. The actual volume of material removed will depend on the results of the excavation boundary soil sampling. The excavation contractor will be responsible to provide dust control measures during excavation and stockpiling activities.

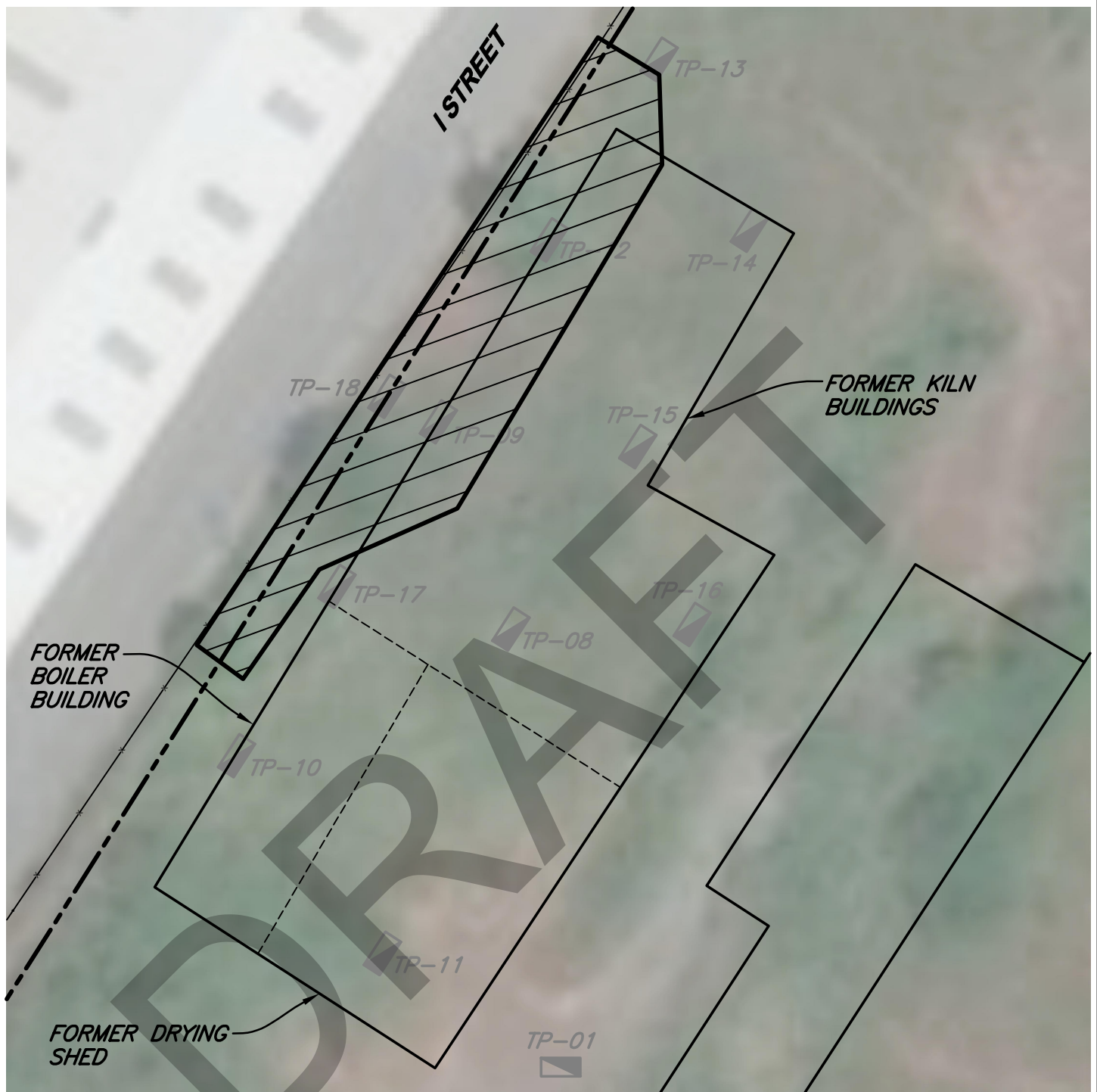
### 5.2 Excavation Confirmation Sampling

Upon completion of excavation activities, soil samples will be collected from the excavation sidewalls and floor and submitted for laboratory analysis. Discrete soil samples will be collected from the excavation sidewalls at depths of 2 to 3 feet BGS, and from the excavation floor as shown in Figure 6. Excavation confirmation sampling is proposed to be completed on a frequency of approximately 40-feet distance on the sidewall and excavation floor. The soil sample collection will occur using a stainless-steel trowel to place the material in laboratory-supplied containers for transport to the testing laboratory as outlined in the project SAP.

The excavation area will be left open pending receipt of the conformation soil sampling analytical results. The soil analytical results will be used to assess whether additional excavation is needed in order to achieve the site cleanup goals. Once the excavation work is complete, the excavation areas will be backfilled using clean, river-run gravel or other clean fill material and compacted.

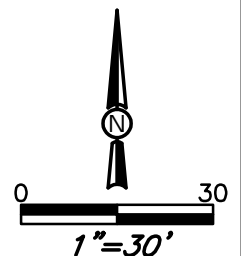


\\Eureka\Projects\2018\018022-Arcata-BF\040-LLI-Rem-Plan\Drawgs. SAVED: 10/13/2020 5:00 PM CNEWELL, PLOTTED: 10/13/2020 5:00 PM, NEWELL, CHRIS



## EXPLANATION

-  TEST PIT LOCATION  
TP-01
-  EXCAVATION AREA



City of Arcata  
Former Little Lake Industries Mill  
Arcata, California

Planned Excavation Area  
Former Kiln Buildings  
SHN 018022.040

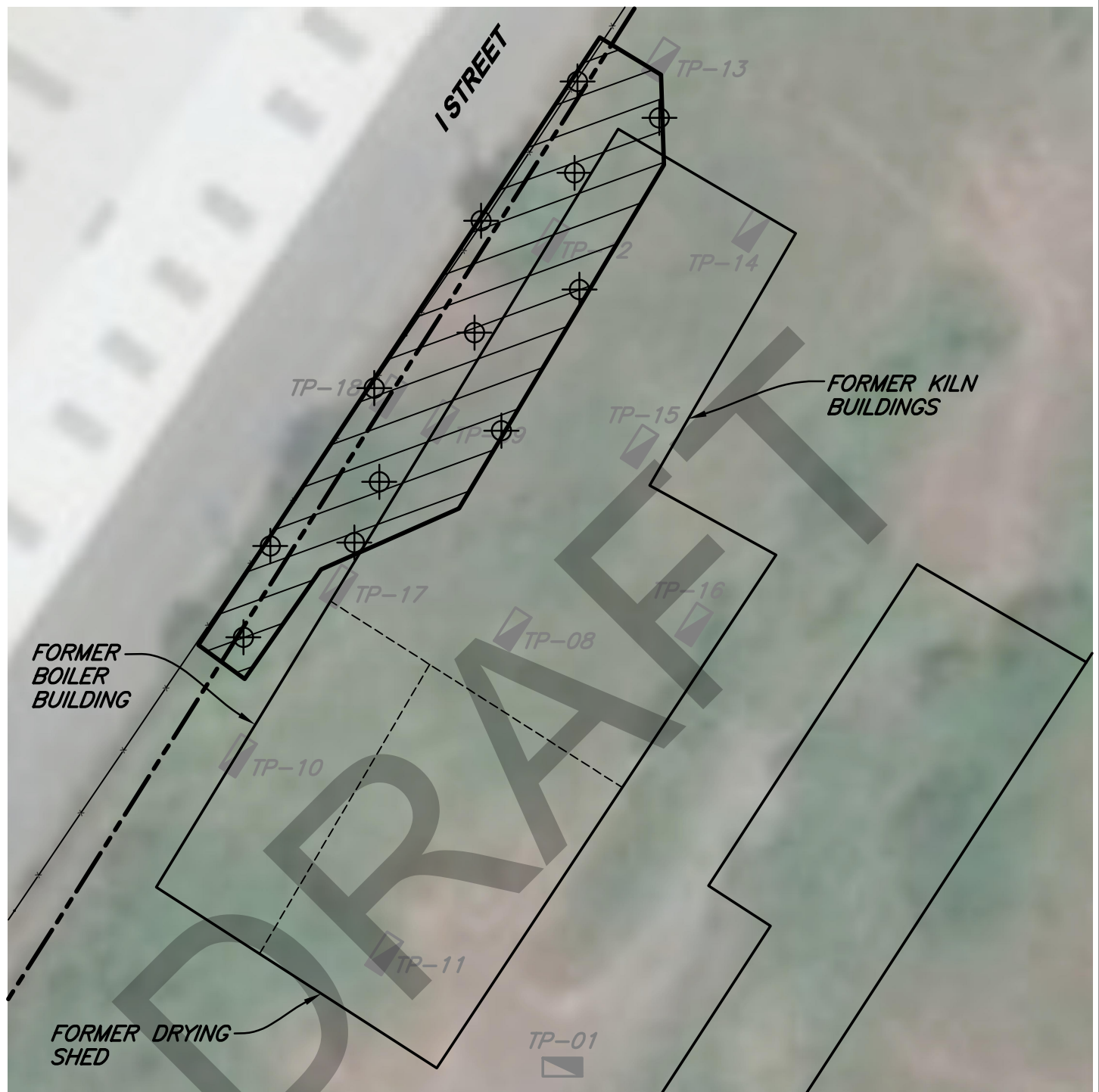
October 2020

018022-040-EXCAV-FRMR-KILN


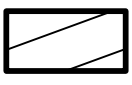

Figure 5

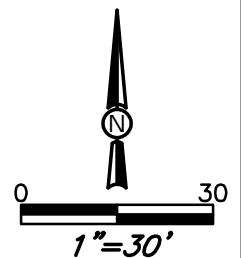


\\Eureka\Projects\2018\018022-Arcata-BF\040-LLI-Rem-Plan\Drawgs. SAVED: 10/13/2020 4:58 PM CNEWELL, PLOTTED: 10/13/2020 5:01 PM, NEWELL, CHRIS



## EXPLANATION

-  TEST PIT LOCATION  
TP-01
-  EXCAVATION AREA
-  CONFIRMATION SAMPLE LOCATION



City of Arcata  
Former Little Lake Industries Mill  
Arcata, California

Excavation Area Confirmation Sample Locations  
Former Kiln Buildings  
SHN 018022.040

October 2020

018022-040-EXCAV-SAMP-FRMR-KILN

Figure 6

### 5.3 Laboratory Analysis

Soil samples collected from within the excavation boundaries will be analyzed using the following methods:

- Soil samples to be tested for dioxins and furans will be analyzed using EPA Method 1613B.

All soil samples collected will be submitted to McCampbell Laboratories, a State-certified testing laboratory located in Pittsburgh, California.

### 5.4 Equipment Decontamination Procedures

The excavator bucket will be cleaned prior to use on site and free of any loose material. Small equipment that requires onsite cleaning between sample location will be cleaned using a triple wash system—a Liquinox® solution wash, followed by two distilled water rinses. All decontamination water generated during the field program will be contained in Department of Transportation (DOT) drums and characterized for proper handling and disposal.

## 6.0 Soil Disposal

Stockpiled material will be tested for disposal characterization on a frequency of one composite sample (4-point) per 250 cubic yards. It is anticipated that the designated receiving facility may require the following analyses on stockpile samples.

- Total cadmium, chromium, nickel, lead, and zinc in general accordance with EPA Method No. 6010B
- TPHMO and TPHD in general accordance with EPA Method No. 8015B
- Dioxins and furans in general accordance with EPA Method 1613B

If necessary, soluble threshold limit concentrations (STLC) for metals and toxicity characteristic leaching procedure (TCLP) for organic constituents will be performed on the samples to meet the acceptance requirements of the disposal facility.

Based on the results of the stockpile characterization, the material will be loaded onto trucks for disposal at an appropriate facility. Using the estimated stockpile volume of 550 cubic yards (460 cubic yards excavated plus 20% expansion) and estimating that trucks used to haul material carry 18 cubic yards, approximately 30 truck-loads will be necessary to remove the material from the site. Each truck leaving the site will be certified to transport hazardous waste and possess a manifest of the material during hauling to the disposal facility.

## 7.0 Reporting

A report of findings for the excavation and disposal of impacted soils will be submitted within 90 days of the removal of the soil stockpile. The report will include the results of the soil sampling, the results of the excavation activities, and soil disposal documentation.



## 8.0 References

- Department of Toxic Substance Control. (April 2017). Human Health Risk Assessment (HHRA) "Note 2. Soil Remediation Goals for Dioxins and Dioxin-Like Compounds." Sacramento, CA:DTSC
- . (June 2020). Human Health Risk Assessment (HHRA) "Note 3. Recommended Screening Levels for Soil Analytes." Sacramento, CA:DTSC.
- Freshwater Environmental Services. (September 2016). "Draft Workplan for Additional Investigation, Little Lake Industries (Arcata Mill), Arcata, California." Arcata, CA:FES.
- Innovative Technical Solutions, Inc. (September 2002). "Final Phase I Report Targeted Brownfields Assessment, South "I" Street Mill Reuse Project, Arcata, California." Walnut Creek, CA:ITSI.
- North Coast Regional Water Quality Control Board. (July 28, 2016). Correspondence to FES. Santa Rosa, CA:RWQCB.
- . (October 13, 2017). Correspondence between Keith Baldanza (RWQCB) and SHN. Santa Rosa, CA:RWQCB.
- . (2019). Correspondence regarding additional dioxin testing in the kiln area. Santa Rosa, CA:RWQCB.
- . (May 2000). Correspondence granting closure of the UST site. Santa Rosa, CA:RWQCB.
- SHN. (2007). Correspondence regarding two sampling events conducted for stockpile characterization. Eureka, CA:SHN.
- . (August 2018). "Site Conditions Report and Data Gaps Site Investigation Work Plan, Former Little Lakes Industries, Arcata, California; Case # 1NHU018." Eureka, CA:SHN.
- . (December 2018). "Site Investigation Work Plan and Sampling and Analysis Plan, Former Little Lake Industries Mill, Arcata, California." Eureka, CA:SHN.
- . (June 2019). "Site Investigation Work Plan and Sampling and Analysis Plan Addendum, Former Little Lake Industries Mill, Arcata, California." Eureka, CA:SHN.
- . (October 2019). "Site Investigation Report of Findings Addendum 1, Former Little Lake Industries Mill, Arcata, California." Eureka, CA:SHN.
- . (May 2020). "Site Investigation Report of Findings, Former Little Lake Industries Mill, Arcata, California." Eureka, CA:SHN.
- Weston Solutions. (June 2003). "Phase II Targeted Brownfields Site Assessment, South "I" Street Mill Reuse Project, Arcata, California." Walnut Creek, CA:Weston.
- . (October 2004). "Appendix E: Street Mill Reuse Project, Arcata, California," in "Targeted Brownfields Site Assessment Phase II B Investigation Amendment to the Final Report." Walnut Creek, CA:Weston.
- Winzler & Kelly, Consulting Engineers. (October 1991). "Report of Initial Subsurface Investigation of Underground Tank Site at Little Lake Industries, Arcata, CA." Eureka, CA:W&K.
- . (April 1998). "Phase I Environmental Site Assessment, Beaver Lumber Property, 46 S. "I" Street, Arcata, CA." Little Lake Industries, Arcata, CA. Eureka, CA:W&K.
- . (March 1998a). "Report of Groundwater and Stockpiled Soil Sampling, at Underground Storage Tank Site; LOP#12018." Eureka, CA:W&K.





DRAFT

Historical Data

1

**Table 1**  
**Summary of Chemical Analyses of Soil Samples for TPH, VOCs, PCBs, and Pesticides**  
**Little Lake Industries, Arcata, California**

Sample Location ID	Depth (feet)	Date Sampled	TPH <sup>a</sup> -Gasoline	TPH-Diesel (silica gel cleanup)	TPH-Motor Oil (silica gel cleanup)	Acetone	Benzene	cis-Dichloro-ethene	Methyl Acetate	Methylene Chloride	Toluene	Xylene	Trichloro-fluoro-methane	2-Butanone (methyl ethyl ketone) (MEK)	PCB <sup>b</sup> (Aroclor 1260)	beta-BHC <sup>c</sup>	4,4'-DDT <sup>d</sup>	Endrin Aldehyde
		units	mg/kg <sup>e</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		Screening Level	100 <sup>f</sup>	260 <sup>f</sup>	1,600 <sup>f</sup>	0.92 <sup>f</sup>	0.025 <sup>f</sup>	NA <sup>g</sup>	24,000 <sup>d</sup>	0.12 <sup>f</sup>	3.2 <sup>f</sup>	2.1 <sup>f</sup>	1,200 <sup>h</sup>	6.1 <sup>f</sup>	0.24 <sup>h</sup>	3.0 <sup>5i</sup>	1.6 <sup>5</sup>	NA <sup>g</sup>
AM-14	3.0'	December 2002	--j	230 <sup>k</sup>	8.1	<0.012 <sup>l</sup>	<0.012	<0.012	<0.012	0.017	<0.012	<0.012	<0.012	<0.012	--	--	--	--
AM-16	0.0'-0.5'	December 2002	--	17	19	<0.010	<0.010	<0.010	<0.010	0.010	<0.010	0.013	<0.010	<0.010	<0.037	<0.0019	<0.0037	<0.0037
AM-16	3.0'	December 2002	--	14	7.2	0.040	<0.011	<0.011	<0.011	0.011	<0.011	<0.011	<0.011	0.006J	<0.041	<0.0021	<0.0041	<0.0041
AM-17	0.0'-0.5'	December 2002	--	39	67	0.100J <sup>m</sup>	0.009J	<0.013	0.044	0.013J	0.025	0.026	<0.013	0.013	<0.041	<0.0019	<0.0041	<0.0041
AM-18	0.0'-0.5'	December 2002	--	140	150	0.063	<0.017	<0.017	<0.017	0.017	0.03	0.030	<0.017	<0.017	<0.053	<0.0027	<0.0053	<0.0053
AM-19	0.0'-0.5'	December 2002	--	39	81	0.014J	<0.010	<0.010	0.009J	0.012	0.017	0.018	<0.010	<0.010	0.071	0.0057	<0.0042	0.0058J
AM-23	0.0'-0.5'	December 2002	--	7.9J	15	0.006J	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	0.003J	<0.010	<0.036	<0.0019	<0.0036	<0.0036
AM-24	0.0'-0.5'	December 2002	--	--	--	0.010J	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	0.001J	<0.010	--	--	--	--
AM-24	3.0'	December 2002	--	--	--	0.024	<0.010	<0.010	<0.010	0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--
AM-26	0.0'-0.5'	December 2002	<1.1	170	270	0.037	<0.010	<0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.004J	<0.039	<0.0020	<0.0039	<0.0039
AM-26	3.0'	December 2002	<1.3	33	119	0.018	<0.013	<0.013	<0.013	0.013J	<0.013	<0.013	<0.013	<0.013	<0.043	<0.0022	<0.0043	<0.0043
AM-27	0.0'-0.5'	December 2002	<1.3	82	140	0.250	<0.012	<0.012	<0.012	0.012J	<0.012	<0.012	<0.012	0.027	<0.044	<0.0023	0.0032J	<0.0044
AM-28	0.0'-0.5'	December 2002	--	370 <sup>n</sup>	800	0.007	<0.012	<0.012	<0.012	0.020	<0.012	<0.012	0.004J	<0.012	--	--	--	--
AM-30	0.0'-0.5'	December 2002	--	150	360	0.019	<0.016	<0.016	<0.016	0.024	<0.016	<0.016	0.002J	<0.016	--	--	--	--
AM-31	0.0'-0.5'	December 2002	--	4.9J	5.8J	<1.6	<1.6	<1.6	<1.6	2.3	<1.6	1.6	<1.6	<1.6	--	--	--	--
AM-33	0.0'-0.5'	December 2002	--	140	240	0.120	<0.012	<0.012	<0.012	0.012J	<0.012	<0.012	<0.012	0.011J	--	--	--	--
AM-35 (4-point composite)	0.0'-0.5'	December 2002	--	90	160	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-35 (4-point composite)	3.0'	December 2002	--	97	200	0.050	<0.014	<0.014	<0.014	0.015	<0.014	<0.014	0.002J	<0.014	--	--	--	--
AM-36 (4-point composite)	0.0'-0.5'	December 2002	--	160	270	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-37 (4-point composite)	0.0'-0.5'	December 2002	--	390	850	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-38	Stockpile	December 2002	--	53	68	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-39	Stockpile	December 2002	--	91	180	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-40	Stockpile	December 2002	--	150	210	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-45	Stockpile	December 2002	--	8.7J	13	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-101	0.0'-0.5'	April 2004	--	20	140	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-101	1.0'	April 2004	--	250	3,000	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-102	0.0'-0.5'	April 2004	--	57	470	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-103	0.0'-0.5'	April 2004	--	30	210	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-104	0.0'-0.5'	April 2004	--	34	220	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-105	0.0'-0.5'	April 2004	--	150	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-106	0.0'-0.5'	April 2004	--	21	170	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-107	0.0'-0.5'	April 2004	--	67	670	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-108	0.0'-0.5'	April 2004	--	180	1,800	--	--	--	--	--	--	--	--	--	--	--	--	--
AM-109	0.0'-0.5'	April 2004	--	11	72	--	--	--	--	--	--	--	--	--	--	--	--	--
TP-01	unknown	March 2019	--	99	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Table 1 Summary of Chemical Analyses of Soil Samples for TPH, VOCs, PCBs, and Pesticides Little Lake Industries, Arcata, California																		
Sample Location ID	Depth (feet)	Date Sampled	TPH <sup>a</sup> - Gasoline	TPH-Diesel (silica gel cleanup)	TPH-Motor Oil (silica gel cleanup)	Acetone	Benzene	cis-Dichloro-ethene	Methyl Acetate	Methylene Chloride	Toluene	Xylene	Trichloro-fluoro-methane	2-Butanone (methyl ethyl ketone) (MEK)	PCB <sup>b</sup> (Aroclor 1260)	beta-BHC <sup>c</sup>	4,4'-DDT <sup>d</sup>	Endrin Aldehyde
		units	mg/kg <sup>e</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		Screening Level	100 <sup>f</sup>	260 <sup>f</sup>	1,600 <sup>f</sup>	0.92 <sup>f</sup>	0.025 <sup>f</sup>	NA <sup>g</sup>	24,000 <sup>d</sup>	0.12 <sup>f</sup>	3.2 <sup>f</sup>	2.1 <sup>f</sup>	1,200 <sup>h</sup>	6.1 <sup>f</sup>	0.24 <sup>h</sup>	3.0 <sup>5i</sup>	1.6 <sup>5</sup>	NA <sup>g</sup>
TP-07	unknown	March 2019	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--

<sup>a</sup> TPH: total petroleum hydrocarbons  
<sup>b</sup> PCB: polychlorinated biphenyl  
<sup>c</sup> Beta-BHC: β-Hexachlorocyclohexane  
<sup>d</sup> DDT: dichloro-diphenyl-trichloroethane  
<sup>e</sup> mg/kg: milligrams per kilogram  
<sup>f</sup> San Francisco Bay Regional Water Quality Control Board, Tier 1 Environmental Screening Levels for Soil, Revision 2, January 2019.  
<sup>g</sup> NA: not available  
<sup>h</sup> California Department of Toxic Substances Control, Human Health Risk Assessment Note 3, Screening Levels for Soil, June 2020.  
<sup>i</sup> U.S. Environmental Protection Agency, Regional Screening Levels for Residential Soil, May 2020.  
<sup>j</sup> --: not analyzed  
<sup>k</sup> Indicates a detection  
<sup>l</sup> <: "less than"  
<sup>m</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.  
<sup>n</sup> underlined indicates a detection above a screening level.



**Table 2**  
**Summary of Chemical Analyses of Soil Samples for SVOCs<sup>a</sup>**  
**Little Lake Industries, Arcata, California**

Sample Location ID	Depth (feet)	Date Sampled	Atrazine	Anthracene	Benzaldehyde	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-Ethylhexyl) Phthalate	Butylbenzyl-phthalate	Caprolactam	Chrysene	Dibenzofuran	Diethyl phthalate	Di-n-butylphthalate (dibutyl phthalate)	Fluoranthene	Naphthalene	Pentachloropheno	Phenanthrene	Pyrene	2-Methyl-naphthalene	2,2 -oxybis	4-Methylphenol (p-cresol)		
			units	mg/kg <sup>b</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			Screening Level	2.4 <sup>c</sup>	1.9 <sup>d</sup>	170 <sup>c</sup>	0.63 <sup>d</sup>	0.11 <sup>d</sup>	0.16 <sup>d</sup>	2.5 <sup>d</sup>	2.8 <sup>d</sup>	250,000 <sup>c</sup>	0.8 <sup>d</sup>	290 <sup>e</sup>	31,000 <sup>c</sup>	2.2 <sup>d</sup>	66 <sup>e</sup>	0.025 <sup>d</sup>	6,300 <sup>c</sup>	0.69 <sup>d</sup>	0.042 <sup>d</sup>	1.0 <sup>e</sup>	7.8 <sup>d</sup>	45 <sup>d</sup>	0.88 <sup>d</sup>	NA <sup>f</sup>	6,300 <sup>c</sup>	
AM-14	3.0'	Dec 2002	-- <sup>g</sup>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
AM-16	0.0'-0.5'	Dec 2002	<370 <sup>h</sup>	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370	--	0.420	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370	<0.370	<0.930	<0.370	<0.370	<0.370	<0.370		
AM-16	3.0'	Dec 2002	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	--	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	0.190 J	<0.410	<0.410	<0.410	<0.410	<0.410		
AM-17	0.0'-0.5'	Dec 2002	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	--	0.410 J <sup>i</sup>	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<0.410	<1.0	<0.410	<0.410	<0.410	<0.410	<0.410		
AM-18	0.0'-0.5'	Dec 2002	<0.520	<0.520	<0.520	<0.520	<0.520	<0.520	<0.520	<0.520	--	0.520 J	<0.520	<0.520	<0.520	<0.520	<0.520	<0.520	<0.520	<0.520	0.180 J	<0.520	<0.520	<0.520	<0.520	<0.520		
AM-19	0.0'-0.5'	Dec 2002	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	--	0.420 J	<0.420	0.120 J	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	0.160 J	<0.420	<0.420	<0.420	<0.420	<0.420		
AM-23	0.0'-0.5'	Dec 2002	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360	--	0.045 J	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360	<0.360	<0.900	<0.360	<0.360	<0.360	<0.360	<0.360		
AM-25	0.0'-0.5'	Dec 2002	<2.300	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<5.8	<2.3	<2.3	<2.3	<2.3	<2.3		
AM-25	3.0'	Dec 2002	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	0.400 J	<0.400	<0.400	<0.400	0.051 J	<0.400	<0.400	<0.400	<b>0.041<sup>j</sup> J</b>	<1.0	<0.400	<0.400	<0.400	<0.400	<0.400		
AM-26	0.0'-0.5'	Dec 2002	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<0.780	<2.0	<0.780	<0.780	<0.780	<0.780	<0.780		
AM-26	3.0'	Dec 2002	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	0.048 J	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<1.1	<0.420	<0.420	<0.420	<0.420	<0.420		
AM-27	0.0'-0.5'	Dec 2002	<4.400	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<11.0	<4.4	<4.4	<4.4	<4.4	<4.4		
AM-28	0.0'-0.5'	Dec 2002	<4.100	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<10.0	<4.1	<4.1	<4.1	<4.1	<4.1		
AM-30	0.0'-0.5'	Dec 2002	<0.970	<0.970	0.11 J	<0.970	<0.970	<0.970	<0.970	<0.970	<0.970	<b>0.260<sup>j</sup> J</b>	<0.970	<0.970	<0.970	<0.970	<0.970	<0.970	<0.970	<0.970	<2.4	<0.970	<0.970	<0.970	<0.970	<0.970		
AM-31	0.0'-0.5'	Dec 2002	<0.830	<0.830	<0.830	<0.830	<0.830	<0.830	0.150 J	<0.830	<0.830	<b>0.320<sup>j</sup> J</b>	<0.830	<0.830	<0.830	<0.830	<0.830	<0.830	<0.830	<0.830	<2.1	<0.830	<0.830	<0.830	<0.830	<0.830		
M-33	0.0'-0.5'	Dec 2002	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<b>0.130<sup>j</sup> J</b>	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<0.770	<1.9	<0.770	<0.770	<0.770	<0.770	<0.770		
AM-35 (4-point composite)	0.0'-0.5'	Dec 2002	<0.390	<0.390	0.061 J	<0.390	<0.390	<0.390	<0.390	<0.390	<0.390	<b>0.085<sup>j</sup> J</b>	<0.390	0.140 J	<0.390	<0.390	<0.390	<0.390	<0.390	<0.390	<0.990	0.046 J	<0.390	<0.390	<0.390	<0.390		
AM-35 (4-point composite)	3.0'	Dec 2002	<0.450	<0.450	0.250 J	<0.450	<0.450	<0.450	<0.450	<0.450	<0.450	<b>0.360<sup>j</sup> J</b>	<0.450	<0.450	<0.450	<0.450	<0.450	<0.450	<0.450	<0.450	<1.1	0.053 J	<0.450	<0.450	<0.450	<0.450		
AM-36 (4-point composite)	0.0'-0.5'	Dec 2002	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<b>0.420<sup>j</sup> J</b>	<0.420	<b>0.160<sup>j</sup> J</b>	<0.420	<0.420	<0.420	<0.420	<0.420	<0.420	<1.1	<0.420	<0.420	<0.420	<0.420	<b>0.049<sup>i</sup> J</b>		
AM-37 (4-point composite)	0.0'-0.5'	Dec 2002	<4.700	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<b>4.70<sup>k</sup> J</b>	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<12.0	<4.7	<4.7	<4.7	<4.7	<4.7		
AM-38	Stockpile	Dec 2002	<2.200	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<b>2.20<sup>k</sup> J</b>	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<5.6	<2.2	<2.2	<2.2	<2.2	<2.2		
AM-39	Stockpile	Dec 2002	<0.760	<0.760	<0.760	<0.760	<0.760	<0.759	<0.760	<0.760	<0.760	<b>1.10<sup>l</sup> J</b>	<b>0.130<sup>j</sup> J</b>	<0.760	<0.760	<0.760	<0.760	<b>0.096<sup>j</sup> J</b>	<0.760	<0.760	<b>0.078<sup>i</sup> J</b>	<0.760	<0.760	<0.760	<0.760	<0.760		
AM-40	Stockpile	Dec 2002	<0.900	<0.90	<b>0.190<sup>i</sup> J</b>	<b>0.110<sup>i</sup> J</b>	<b>0.120<sup>j</sup> J</b>	<b>0.250<sup>j</sup> J</b>	<0.900	0.120 J	<0.90	<b>1.50<sup>l</sup> J</b>	0.250 J	<0.90	<b>0.210<sup>j</sup> J</b>	<0.90	<0.90	<0.90	<b>0.330<sup>j</sup> J</b>	<0.90	<2.3	<b>0.220<sup>i</sup> J</b>	<b>0.290<sup>i</sup> J</b>	<0.90	<0.90	<0.90		
AM-45	Stockpile	Dec 2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
AM-101	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.400	--	<b>0.250<sup>i</sup> J</b>	<0.400	--	--	--	--	<0.40	<b>0.230<sup>i</sup> J</b>	--	--	<0.400	--	--	<0.400	--	--		



Table 2  
Summary of Chemical Analyses of Soil Samples for SVOCs<sup>a</sup>  
Little Lake Industries, Arcata, California

Sample Location ID	Depth (feet)	Date Sampled	Atrazine	Anthracene	Benzaldehyde	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-Ethylhexyl) Phthalate	Butylbenzyl-phthalate	Caprolactam	Chrysene	Dibenzofuran	Diethyl phthalate	Di-n-butylphthalate (dibutyl phthalate)	Fluoranthene	Naphthalene	Pentachlorophenol	Phenanthrene	Pyrene	2-Methyl-naphthalene	2,2 -oxybis	4-Methylphenol (p-cresol)		
			units	mg/kg <sup>b</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			Screening Level	2.4 <sup>c</sup>	1.9 <sup>d</sup>	170 <sup>c</sup>	0.63 <sup>d</sup>	0.11 <sup>d</sup>	0.16 <sup>d</sup>	2.5 <sup>d</sup>	2.8 <sup>d</sup>	250,000 <sup>c</sup>	0.8 <sup>d</sup>	290 <sup>e</sup>	31,000 <sup>c</sup>	2.2 <sup>d</sup>	66 <sup>e</sup>	0.025 <sup>d</sup>	6,300 <sup>c</sup>	0.69 <sup>d</sup>	0.042 <sup>d</sup>	1.0 <sup>e</sup>	7.8 <sup>d</sup>	45 <sup>d</sup>	0.88 <sup>d</sup>	NA <sup>f</sup>	6,300 <sup>c</sup>	
AM-101	1.0'	April 2004	--	--	--	--	--	--	<2.700	--	<5.300	<2.700	--	--	--	--	<2.70	<2.30	--	--	<2.700	--	--	<2.700	--	--		
AM-102	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.350	--	0.250 <sup>i</sup>	0.180 <sup>i</sup>	--	--	--	--	<0.350	<0.350	--	--	0.072 <sup>i</sup>	--	--	<350	--	--		
AM-103	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.420	--	0.360 <sup>i</sup>	0.170 <sup>i</sup>	--	--	--	--	<0.420	<0.220	--	--	<0.420	--	--	<460	--	--		
AM-104	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.460	--	0.380 <sup>i</sup>	0.100 <sup>i</sup>	--	--	--	--	<0.460	<0.250	--	--	0.140 <sup>i</sup>	--	--	<420	--	--		
AM-105	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.420	--	0.310 <sup>i</sup>	<0.140	--	--	--	--	<0.420	<0.180	--	--	<0.420	--	--	<420	--	--		
AM-106	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.470	--	<0.940	<0.097	--	--	--	--	<0.470	<0.200	--	--	<0.470	--	--	<470	--	--		
AM-107	0.0'-0.5'	April 2004	--	--	--	--	--	--	<0.360	--	<0.720	0.180 <sup>i</sup>	--	--	--	--	<0.360	<0.370	--	--	<0.360	--	--	0.085 <sup>i</sup>	--	--		
AM-108	0.0'-0.5'	April 2004	--	--	--	--	--	--	0.069 <sup>i</sup>	--	0.680 <sup>i</sup>	0.180 <sup>i</sup>	--	--	--	--	0.340 <sup>i</sup>	0.200 <sup>i</sup>	--	--	0.340 <sup>i</sup>	--	--	0.340 <sup>i</sup>	--	--		
AM-109	0.0'-0.5'	April 2004	--	--	--	--	--	--	0.460 <sup>i</sup>	--	0.360 <sup>i</sup>	0.140 <sup>i</sup>	--	--	--	--	0.096 <sup>i</sup>	0.340 <sup>i</sup>	--	--	0.460 <sup>i</sup>	--	--	0.460 <sup>i</sup>	--	--		
TP-01	1.5'	March 2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.031	--	--	--	--	--		
TP-02	2.5'	March 2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--		
TP-03	2.0'	March 2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.031	--	--	--	--	--		
TP-04	2.0'	March 2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.031	--	--	--	--	--		
TP-05	2.0'	March 2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.031	--	--	--	--	--		
TP-06	1.5'	March 2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.031	--	--	--	--	--		

<sup>a</sup> SVOCs: semi volatile organic compounds

<sup>b</sup> mg/kg: milligrams per kilogram

<sup>c</sup> U.S. Environmental Protection Agency, Regional Screening Level for Residential Soil, May 2020.

<sup>d</sup> San Francisco Bay Regional Water Quality Control Board, Tier 1 Environmental Screening Levels for Soil, Revision 2, January 2019.

<sup>e</sup> California Department of Toxic Substances Control, Human Health Risk Assessment Note 3, Screening Levels for Soil, June 2020.

<sup>f</sup> NA: Not Available

<sup>g</sup> --: Not Analyzed

<sup>h</sup> <: "less than"

<sup>i</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.

<sup>j</sup> indicates a detection

<sup>k</sup> underlined indicates a detection above a screening level.



**Table 3**  
**Summary of Chemical Analyses of Soil Samples for Metals**  
**Little Lake Industries, Arcata, California**

Sample Location ID	Depth (feet)	Date Sampled	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		units	mg/kg <sup>a</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		Screening Level	11 <sup>b</sup>	0.41 <sup>c</sup>	390 <sup>b</sup>	16 <sup>c</sup>	1.9 <sup>b</sup>	160 <sup>b</sup>	23 <sup>b</sup>	180 <sup>b</sup>	80 <sup>c</sup>	1.0 <sup>c</sup>	820 <sup>c</sup>	2.4 <sup>b</sup>	25 <sup>b</sup>	0.78 <sup>b</sup>	18 <sup>b</sup>	340 <sup>b</sup>
AM-14	3.0'	December 2002	<0.70 <sup>d</sup>	<u>4.9<sup>e</sup></u>	92.6	0.45	<0.080	72.1	10.7	14.2	6.5	<0.050	77.8	1.8	<0.13	<0.97	<u>49.2</u>	55.4
AM-16	0.0'-0.5'	December 2002	0.35	<u>3.4</u>	63.2	0.28	<0.070	36.2	8.1	21.4	10.5	0.17	49.1	0.84	<0.17	<0.52	<u>37.1</u>	54.4
AM-16	3.0'	December 2002	<0.89	<u>5.5</u>	160	0.51	<0.10	95.1	17.7	21.2	8.2	0.080	108	1.8	<0.17	<1.2	<u>56.6</u>	69.7
AM-17	0.0'-0.5'	December 2002	<0.28	<u>2.8</u>	80.0	0.23	<0.070	16.8	6.4	16.7	11.4	0.090	29.1	<0.71	<0.19	<0.57	<u>21.6</u>	71.9
AM-18	0.0'-0.5'	December 2002	1.2	<u>5.8</u>	195	0.38	0.57 B	82.7	13.3	101	<u>124</u>	3.5	77.8	<1.0	<0.27	<0.82	<u>46.5</u>	387
AM-19	0.0'-0.5'	December 2002	0.37	<u>4.3</u>	108	0.31	0.31 B	35.4	9.2	35.4	67.7	0.66	42.7	<0.80	<0.21	<0.64	<u>39.6</u>	227
AM-23	0.0'-0.5'	December 2002	<0.78	<u>3.4</u>	160	0.51	<0.080	95.1	17.7	21.2	5.9	0.080	108	1.8	<0.17	<1.2	<u>48.4</u>	51.5
AM-24	0.0'-0.5'	December 2002	0.37	<u>2.7</u>	61.0	0.25	<0.060	29.5	7.1	18.5	14.6	0.060	39.7	<0.63	<0.17	<0.51	<u>35.3</u>	41.3
AM-24	3.0'	December 2002	<0.95	<u>6.1</u>	115	0.48	<0.010	93.0	10.6	14.0	8.5	0.080	93.7	2.2	<0.18	<1.3	<u>57.5</u>	69.3
AM-26	0.0'-0.5'	December 2002	<0.73	<u>2.9</u>	301	0.27	<0.080	35.6	6.9	37.4	62.3	0.11	31.5	1.3	<0.14	<1.0	<u>32.1</u>	92.1
AM-26	3.0'	December 2002	<0.90	<u>5.2</u>	207	0.44	<0.10	72.7	15.3	21.6	53.0	0.090	86.1	1.6	<0.17	<1.2	<u>50.5</u>	150
AM-27	0.0'-0.5'	December 2002	<0.89	<u>5.6</u>	219	0.34	0.15 B	52.2	11.1	51.2	<u>166</u>	0.33	55.6	1.9	<0.17	<1.2	<u>40.6</u>	207
AM-28	0.0'-0.5'	December 2002	<1.1	<u>3.8</u>	151	0.32	<0.11	38.9	8.8	20.3	74.5	0.17	45.2	<0.94	1.1	<1.5	<u>44.4</u>	<u>391</u>
AM-30	0.0'-0.5'	December 2002	<1.1	<u>6.3</u>	180	0.41	<u>6.9</u>	67.6	9.0	68.4	59.7	0.11	45.2	<0.94	<0.21	<1.5	<u>41.4</u>	<u>664</u>
AM-31	0.0'-0.5'	December 2002	<0.87	<u>4.4</u>	377	0.22	<0.090	39.6	7.9	103	54.3	0.080	46.2	1.1 B	<0.16	<1.2	<u>28.6</u>	<u>592</u>
AM-33	0.0'-0.5'	December 2002	0.70	<u>4.2</u>	200	0.30	0.44	43.0	<u>43.6</u>	45.8	56.6	0.10	53.3	1.2	<0.18	<0.55	<u>37.9</u>	<u>637</u>
AM-35 (4-point composite)	0.0'-0.5'	December 2002	0.86	<u>2.5</u>	137	0.23	<0.070	29.4	9.4	20.5	<u>116</u>	0.11	50.5	<0.69	<0.18	<0.55	<u>29.0</u>	99.9
AM-35 (4-point composite)	3.0'	December 2002	<0.86	<u>7.5</u>	217	0.53	<0.090	39.6	13.4	17.7 J <sup>5</sup>	10.7	0.090	111	2.0	<0.16	<1.2	<u>61.5</u>	80.8
AM-36 (4-point composite)	0.0'-0.5'	December 2002	<0.86	<u>3.8</u>	225	0.40	0.25	42.6	13.8	54.9	<u>200</u>	0.35	48.8	<1.2	<0.33	<0.98	<u>52.7</u>	249
AM-37 (4-point composite)	0.0'-0.5'	December 2002	0.96	<u>6.7</u>	203	0.36	0.53	46.3	11.4	45.2	<u>191</u>	0.14	55.8	0.74	<0.19	<0.58	<u>43.6</u>	309
AM-38	Stockpile	December 2002	0.77	<u>6.7</u>	149	0.44	<0.080	73.6	14.9	41.4	33.3	0.12	87.9	1.3	<0.20	<0.60	<u>55.5</u>	89.6
AM-39	Stockpile	December 2002	0.36	<u>5.3</u>	141	0.37	<0.070	52.4	11.3	41.7	78.6	0.26	63.1	<0.68	<0.18	<0.54	<u>45.5</u>	133
AM-40	Stockpile	December 2002	<0.35	<u>6.0</u>	120	0.40	0.90	60.9	12.4	50.5	<u>124</u>	0.21	70.2	<0.87	<0.23	<0.70	<u>48.0</u>	229
AM-45	Stockpile	December 2002	0.68	<u>4.3</u>	133	0.40	<0.060	50.2	10.3	27.1	57.4	0.10	52.1	<0.64	<0.17	<0.51	<u>45.2</u>	87.7
AM-101	0.0'-0.5'	April 2004	-- <sup>f</sup>	<u>2.6 J</u>	--	--	0.18 J	--	--	--	24.8 J	--	--	--	--	--	--	131 J
AM-101	1.0'	April 2004	--	<u>3.3 J</u>	--	--	0.15 J	--	--	--	7.5 J	--	--	--	--	--	--	68.4 J
AM-102	0.0'-0.5'	April 2004	--	<u>4.3 J</u>	--	--	0.18 J	--	--	--	27 J	--	--	--	--	--	--	145 J
AM-103	0.0'-0.5'	April 2004	--	<u>3.6 J</u>	--	--	0.18 J	--	--	--	54.5 J	--	--	--	--	--	--	181 J
AM-104	0.0'-0.5'	April 2004	--	<u>8.7 J</u>	--	--	0.18 J	--	--	--	<u>87.3 J</u>	--	--	--	--	--	--	318 J
AM-105	0.0'-0.5'	April 2004	--	<u>3.3 J</u>	--	--	<0.18	--	--	--	<u>93.5 J</u>	--	--	--	--	--	--	233 J
AM-106	0.0'-0.5'	April 2004	--	<u>4.9 J</u>	--	--	0.24 J	--	--	--	<u>155 J</u>	--	--	--	--	--	--	113 J
AM-107	0.0'-0.5'	April 2004	--	<u>5.4 J</u>	--	--	0.17 J	--	--	--	<u>149 J</u>	--	--	--	--	--	--	316 J
AM-108	0.0'-0.5'	April 2004	--	<u>4.1 J</u>	--	--	0.15 J	--	--	--	<u>169 J</u>	--	--	--	--	--	--	341 J
AM-109	0.0'-0.5'	April 2004	--	<u>5.9 J</u>	--	--	0.22 J	--	--	--	66 J	--	--	--	--	--	--	490 J
AM-BG-1	unknown	December 2002	<2.3	<u>7.4</u>	94.6	0.70	<0.25	88.9	14.3	96.0 J	61.2	0.19 B	112	<2.0	<0.43	<3.2	<u>61.5</u>	168 J
AM-BG-2	unknown	December 2002	<1.9	<u>8.2</u>	59.6	0.83	<0.21	127	23.9	19.8 J	29	0.16 B	153	2.2	<0.37	<2.7	<u>83.1</u>	118 J
TP-01	1.5'	March 2019	--	--	--	--	--	--	--	--	28	--	--	--	--	--	--	--





Table 3 Summary of Chemical Analyses of Soil Samples for Metals Little Lake Industries, Arcata, California																		
Sample Location ID	Depth (feet)	Date Sampled	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		units	mg/kg <sup>a</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		Screening Level	11 <sup>b</sup>	0.41 <sup>c</sup>	390 <sup>b</sup>	16 <sup>c</sup>	1.9 <sup>b</sup>	160 <sup>b</sup>	23 <sup>b</sup>	180 <sup>b</sup>	80 <sup>c</sup>	1.0 <sup>c</sup>	820 <sup>c</sup>	2.4 <sup>b</sup>	25 <sup>b</sup>	0.78 <sup>b</sup>	18 <sup>b</sup>	340 <sup>b</sup>
TP-02	2.5'	March 2019	--	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--
TP-03	2.0'	March 2019	--	--	--	--	--	--	--	--	13	--	--	--	--	--	--	--
TP-04	2.0'	March 2019	--	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--
TP-05	2.0'	March 2019	--	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--
TP-06	1.5'	March 2019	--	--	--	--	--	--	--	--	28	--	--	--	--	--	--	--
TP-07	1.5'	March 2019	--	--	--	--	--	--	--	--	13	--	--	--	--	--	--	--

<sup>a</sup> mg/kg: milligrams per kilogram  
<sup>b</sup> San Francisco Bay Regional Water Quality Control Board, Tier 1 Environmental Screening Levels, Revision 2, January 2019.  
<sup>c</sup> California Department of Toxic Substances Control, Human Health Risk Assessment Note 3, Screening Levels for Soil, June 2020  
<sup>d</sup> <: less than  
<sup>e</sup> underlined indicates a detection above a screening level. J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.  
<sup>f</sup> --: This analyte may have been analyzed but there are no lab reports or tables listing the results



**Table 4**  
**Dioxins and Furans Congeners in Soil, 2019 and 2020**  
**Little Lake Industries Mill, Arcata, California**  
**(in pg/g<sup>a</sup>, unless noted)**

Sample Identification	TP-01	TP-02	TP-03	TP-04	TP-05	TP-06	TP-08	TP-09	TP-10
Depth (feet BGS) <sup>b</sup>	1.0'-1.5'	2.0'-2.5'	1.5'-2.0	1.5'-2.0	1.5'-2.0'	1.0'-1.5'	1.5'-2.0'	2.0'-2.5'	2.0'-2.5'
2,3,7,8 TCDD (4.8 pg/g) <sup>c</sup>	<1.00 <sup>d</sup>	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<b>2.78<sup>e</sup></b>	<1.00
1,2,3,7,8,PeCDD	<5.00	1.20 J <sup>f</sup>	<5.00	<5.00	1.64 J	<5.00	<5.00	20.7	<5.00
1,2,3,4,7,8 HxCDD	<5.00	4.10 J	<5.00	<5.00	4.32 J	0.580 J	9.96	46	9.36
1,2,3,6,7,8 HxCDD	0.420 J	11.7	<5.00	<5.00	11.8	1.50 J	38.8	754	42
1,2,3,7,8,9 HxCDD	<5.00	4.58 J	<5.00	<5.00	2.28 J	1.06 J	12.1	171	17.2
1,2,3,4,6,7,8 HpCDD	8.38 J	248	1.72 J	1.48 J	158	46.2	1,100	14,000	1,120
OCDD	72.9 J	2,920	15.4	12	1,140	379	15,100	87,000	12,300
2,3,7,8 TCDF	0.280 J	<1.00	<1.00	0.400 J	<1.00	<1.00	1.64	2.78	1.38
1,2,3,7,8 PeCDF	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	14.0	<5.00
2,3,4,7,8 PeCDF	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	28.7	<5.00
1,2,3,4,7,8 HxCDF	<5.00	2.30 J	<5.00	<5.00	1.04 J	<5.00	15.2	158	11.5
1,2,3,6,7,8 HxCDF	<5.00	1.80 J	<5.00	<5.00	5.24	1.50 J	72.7	360	47.2
1,2,3,7,8,9 HxCDF	<5.00	0.940 J	<5.00	<5.00	<5.00	<5.00	<5.00	13.0	<5.00
2,3,4,6,7,8 HxCDF	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	5.58	61.6	7.64
1,2,3,4,6,7,8 HpCDF	3.40 J	116	0.980 J	0.980 J	57.2	6.24	844	1560	622
1,2,3,4,7,8,9 HpCDF	<5.00	5.18	<5.00	<5.00	2.06 J	<5.00	17.8	56.5	12.8
OCDF	3.86 J	231	<10.0	<10.0	242	16.9	703	979	489
TEQ (50 pg/g) <sup>g</sup>	<b>0.157<sup>e</sup> J</b>	<b>8.01<sup>e</sup></b>	<b>0.0154<sup>e</sup></b>	<b>0.0120<sup>e</sup></b>	<b>5.24<sup>e</sup></b>	<b>0.920<sup>e</sup></b>	<b>40.0<sup>e</sup></b>	<b>372<sup>e</sup></b>	<b>35.0<sup>e</sup></b>



**Table 4 (Continued)**  
**Dioxins and Furans Congeners in Soil, 2019 and 2020**  
**Little Lake Industries Mill, Arcata, California**  
**(in pg/g<sup>1</sup>, unless noted)**

Sample Identification	TP-11	TP-12	TP-13	TP-14	TP-15	TP-16	TP-17	TP-18
Depth (feet BGS) <sup>b</sup>	2.0'-2.5'	1.5'-2.0'	1.5'-2.0'	2.0'-2.5'	2.0'-2.5'	1.5'-2.0'	1.5'-2.0'	1.5'-2.0'
2,3,7,8 TCDD (4.8 pg/g) <sup>c</sup>	<1.00 <sup>d</sup>	<100	<25	<b>0.580<sup>e</sup> J</b>	<b>0.300<sup>e</sup> J</b>	<1.0	<b>0.320<sup>e</sup> J</b>	<25
1,2,3,7,8, PeCDD	<5.00	<500	<125	2.52 J	<5.0	<5.0	2.46 J	<125
1,2,3,4,7,8 HxCDD	<5.00	<500	<125	8.10	1.46 J	1.06 J	7.58	<125
1,2,3,6,7,8 HxCDD	<5.00	612	112 J	18.0	3.74 J	3.30 J	20.3	126
1,2,3,7,8,9 HxCDD	<5.00	<500	62.0 J	16.1	1.84 J	1.00 J	12.5	<125
1,2,3,4,6,7,8 HpCDD	92.1	26,100	3590	462	92.3	92.3	948	4,140
OCDD	1,130	309,000	42500	290	898 B	1,020	15,600	56,700
2,3,7,8 TCDF	<1.00	<100	<25	0.420 J	0.620 J	<1.0	0.900 J	<25
1,2,3,7,8 PeCDF	<5.00	<500	<125	1.06 J	0.700 J	0.480 J	1.16 J	<125
2,3,4,7,8 PeCDF	<5.00	<500	<125	1.32 J	0.940 J	0.860 J	1.36 J	<125
1,2,3,4,7,8 HxCDF	<5.00	200 J	<125	5.38	1.98 J	3.42 J	5.72	71.0 J
1,2,3,6,7,8 HxCDF	<5.00	840	48.0 J	3.22 J	0.760 J	0.820 J	13.8	<125
1,2,3,7,8,9 HxCDF	<5.00	<500	<125	0.840 J	<5.0	0.700 J	0.940 J	<125
2,3,4,6,7,8 HxCDF	<5.00	<500	<125	4.78 J	0.840 J	<5.0	<5.0	<125
1,2,3,4,6,7,8 HpCDF	23.9	9,740	419	148	24.9	26.7	126	1,320
1,2,3,4,7,8,9 HpCDF	<5.00	<500	<125	10.4	1.52 J	1.78 J	12.2	63.0 J
OCDF	34.6	3,640	719	868	59.4	59.8	365	1,670
TEQ (50 pg/g) <sup>g</sup>	<b>1.51<sup>e</sup></b>	<b>597<sup>h</sup></b>	<b>53.1<sup>h</sup></b>	<b>12.7<sup>e</sup></b>	<b>1.46<sup>e</sup></b>	<b>1.51<sup>e</sup></b>	<b>21.6<sup>e</sup></b>	<b>84.7<sup>f</sup></b>

<sup>a</sup> pg/g: picogram per gram

<sup>b</sup> BGS: below ground surface

<sup>c</sup> 2,3,7,8-TCDD Screening Level: micrograms per gram; California Department of Toxic Substances Control, Human Health Risk Assessment Note 3, June 2020.

<sup>d</sup> <: "less than" the laboratory reporting limit

<sup>e</sup> indicates a detection

<sup>f</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.

<sup>g</sup> TEQ Screening Level: California Department of Toxic Substances Control, Human Health Risk Assessment Note 2, Remediation Goal for Residential Soil, April 2017.

<sup>h</sup> underlined indicates a detection above a screening level. J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.



Sample Location ID	Date Sampled	TPH- Gasoline	TPH- Diesel (silica gel cleanup)	TPH- Motor Oil (silica gel cleanup)	Acetone	Benzene	Bromo- methane	Chloro- benzene	Ethyl- benzene	Methylene Chloride (Dichloro- methane)	Methyl t-butyl ether (MTBE)	Toluene	1,1- Dichloro- oethene	Trichloro- ethene	1,2-Dibromo- 3- chloro- propane (DBCP)	1,2,3- Trichloro- benzene	2-Butanone (methyl ethyl ketone) (MEK)
	units	µg/L <sup>c</sup>	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	Screening Level	5 <sup>d</sup>	100 <sup>d</sup>	175 <sup>d,e</sup>	6,300 <sup>f</sup>	0.15 <sup>d</sup>	9.8 <sup>f</sup>	70 <sup>g</sup>	3.2 <sup>d</sup>	4 <sup>g</sup>	5 <sup>d</sup>	42 <sup>d</sup>	0.06 <sup>h</sup>	1.7 <sup>5</sup>	0.0017 <sup>g</sup>	NA <sup>i</sup>	4,000 <sup>h</sup>
AM-14	December 2002	<u>13</u> <sup>j</sup> J <sup>k</sup>	<u>340</u> <sup>j</sup>	<100 <sup>l</sup>	<10	<10	<10	<10	<10	<u>10</u> <sup>j</sup> JB <sup>m</sup>	<10	<10	<10	<10	<10 R <sup>n</sup>	-- <sup>o</sup>	<10
AM-24	December 2002	<u>11</u> <sup>j</sup> J	<u>230</u> <sup>j</sup>	<100	<10	<10	<10	<10	<10	<u>10</u> <sup>j</sup> JB	<10	<10	<10	<10	<10 R	--	<10
AM-26	December 2002	<u>16</u> <sup>j</sup> J	<u>210</u> <sup>j</sup>	<100	<10	<10	<10	<10	<u>1.0</u> J	<u>10</u> <sup>j</sup> JB	<10	<10	<10	<10	<10 R	--	<10
AM-32 (Industrial Supply Well)	December 2002	<u>6.0</u> <sup>j</sup> J	<u>840</u> <sup>j</sup>	<100	<10	<10	<10	<10	<10	<u>10</u> <sup>j</sup> JB	<10	<10	<10	<10	<10 R	--	<10
AM-34	December 2002	<u>16</u> <sup>j</sup> J	<u>1,100</u> <sup>j</sup>	<100	<u>10</u> <sup>p</sup> JB	<10	<10	<10	<10	<u>10</u> <sup>j</sup> JB	<10	<10	<10	<10	<10 R	--	<10
AM-35	December 2002	<u>7.0</u> <sup>j</sup> J	<u>880</u> <sup>j</sup>	<120	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	April 2004	--	<250	<1,000	<u>3.5</u> <sup>o</sup> J	--	--	--	--	--	<1.0	--	--	--	--	<u>0.5</u> <sup>o</sup> J	<u>5.5</u> <sup>o</sup>
MW-2	April 2004	--	<320	<u>820</u> <sup>j</sup>	<u>3.2</u> <sup>o</sup> J	--	--	--	--	--	<1.0	--	--	--	--	<1	<4
MW-3	April 2004	--	<270	<1,100	<u>3.6</u> <sup>o</sup> J	--	--	--	--	--	<1.0	--	--	--	--	<1	<4
MW-4	April 2004	--	<u>200</u> <sup>j</sup>	<1,100	<4	--	--	--	--	--	<1.0	--	--	--	--	<1	<4
MW-5	April 2004	--	<280	<1,100	<u>2.1</u> <sup>o</sup> J	--	--	--	--	--	<1.0	--	--	--	--	<1	<4
WP-01	March 2019	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WP-02	March 2019	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WP-03	March 2019	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WP-04	March 2019	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WP-05	March 2019	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WP-06	March 2019	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
WP-07	March 2019	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--

<sup>a</sup> TPH: total petroleum hydrocarbons

<sup>b</sup> VOCs: volatile organic compounds

<sup>c</sup> µg/L: micrograms per liter

<sup>d</sup> North Coast Regional Water Quality Control Board, Groundwater Water Quality Objectives for Cleanup Projects in the North Coast Region, August 2016.

<sup>e</sup> PQL: Practical quantitation limit based on current technology used when water quality objective cannot be achieved.

<sup>f</sup> U.S. Environmental Protection Agency Integrated Risk Information System

<sup>g</sup> California Public Health Goal or PHG (Cal-EPA, OEHHA)

<sup>h</sup> U.S. Environmental Protection Agency Health Advisory

<sup>i</sup> NA: Not Available

<sup>j</sup> underlined indicates a detection above a screening level.

<sup>k</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.

<sup>l</sup> <: less than

<sup>m</sup> B: Analyte was detected in the method blank and in the sample.

<sup>n</sup> R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

<sup>o</sup> --: not analyzed

<sup>p</sup> indicates a detection



Sample Location ID	Date Sampled	Atrazine	Bis(2-Ethylhexyl) Phthalate (Di (2-ethylhexyl) phthalate)	Butyl Benzyl Phthalate (n-Butyl benzyl phthalate)	Caprolactam	Diethyl-phthalate	Di-n-butylphthalate	Naphthalene	Pentachloro-phenol	Phenol	4-Chloro-3-methylphenol (4-Chloro-m-cresol)
	units	µg/L <sup>b</sup>	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	Screening Level	0.15 <sup>c</sup>	4 <sup>d</sup>	140 <sup>e</sup>	3,500 <sup>e</sup>	5,600 <sup>e</sup>	700 <sup>e</sup>	17 <sup>f</sup>	0.3 <sup>c</sup>	2,000 <sup>g</sup>	NA <sup>h</sup>
AM-14	December 2002	<10 <sup>i</sup> R <sup>j</sup>	<u>10<sup>k</sup></u> J <sup>l</sup> B <sup>m</sup>	<100	<10	<10	<10	<10	<u>74</u>	<10	<10
AM-24	December 2002	<10 R	<u>27<sup>k</sup></u> B	<100	<10	1 <sup>n</sup> J	<10	<10	<25	<10	<10
AM-26	December 2002	<10 R	<u>10<sup>k</sup></u> J B	<100	<10	<10	<10	<10	<25	<10	<10
AM-32-GW (Industrial Supply Well)	December 2002	<10 R	<u>10<sup>k</sup></u> J B	<100	<10	<10	<10	<10	<25	<10	<10
AM-34	December 2002	<10 R	<u>10<sup>k</sup></u> B	<100	1 J	4 J	<10	<10	<25	5 J	<10
AM-35	December 2002	-- <sup>o</sup>	--	<120	--	--	--	--	--	--	--
MW-1	April 2004	--	0.6 J	<1,000	--	<1	0.5 J	--	<5	--	--
MW-2	April 2004	--	0.5 J	<u>820<sup>k</sup></u>	--	<1	0.6 J	--	<5	--	--
MW-3	April 2004	--	<1.1	<1,100	--	<1.1	<1.1	--	<5.5	--	--
MW-4	April 2004	--	1	<1,100	--	<1	1.1	--	<5	--	--
MW-5	April 2004	--	0.7 J	<1,100	--	<1	<1	--	<5	--	--
WP-01	March 2019	--	--	--	--	--	--	--	<0.25	--	--
WP-04	March 2019	--	--	--	--	--	--	--	<1.2	--	--
WP-07	March 2019	--	--	--	--	--	--	<0.010	<0.25	--	--

<sup>a</sup> SVOCs: semi-volatile organic compounds

<sup>b</sup> µg/L: micrograms per liter

<sup>c</sup> California Public Health Goal or PHG (Cal-EPA, OEHHA)

<sup>d</sup> California Department of Public Health, Primary MCL

<sup>e</sup> U.S. Environmental Protection Agency Integrated Risk Information System (IRIS)

<sup>f</sup> North Coast Regional Water Quality Control Board, Groundwater Water Quality Objectives for Cleanup Projects in the North Coast Region, August 2016.

<sup>g</sup> Environmental Protection Agency Health Advisory

<sup>h</sup> NA: not available

<sup>i</sup> <: less than

<sup>j</sup> R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

<sup>k</sup> underlined indicates a detection above a screening level.

<sup>l</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.

<sup>m</sup> B: Analyte was detected in the method blank and in the sample.

<sup>n</sup> indicates a detection

<sup>o</sup> --: not analyzed



<p>Table 7</p> <p>Summary of Chemical Analyses of Groundwater Samples for Metals</p> <p>Little Lake Industries, Arcata, California</p>																		
Sample Location ID	Date Sampled	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
	units	µg/L <sup>a</sup>	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	Screening Level	2.8 <sup>b</sup>	0.004 <sup>b</sup>	700 <sup>c</sup>	1 <sup>b</sup>	0.04 <sup>b</sup>	3 <sup>d</sup>	3.0 <sup>e</sup>	300 <sup>b</sup>	0.2 <sup>b</sup>	1.2 <sup>b</sup>	35 <sup>c</sup>	12 <sup>b</sup>	30 <sup>b</sup>	35 <sup>f</sup>	0.1 <sup>b</sup>	63 <sup>f</sup>	2,000 <sup>c</sup>
AM-14	December 2002	<u>3.5<sup>g</sup></u> B <sup>h</sup>	<3.0 <sup>i</sup>	52.3 B	<0.20	<0.30	<0.80	2.1 B	32.3	<1.2	<0.10	-- <sup>j</sup>	8.9 B	<3.0	<0.80	<2.4	1.8 B	2.7 B
AM-24	December 2002	<1.2	<3.0	32.6 B	<0.20	<p0.30	<0.80	0.78 B	17.7 B	<1.2	<0.10	--	3.8 B	<3.0	<0.80	<2.4	2.2 B	9.7 B
AM-26	December 2002	<1.2	<3.0	40.2 B	<0.20	<0.30	<0.80	1.2 B	9.1 B	<1.2	<0.10	--	4.1 B	<3.0	<0.80	<2.4	1.7 B	176
AM-32 (Industrial Supply Well)	December 2002	1.7 B	<3.0	44.1 B	<0.20	<0.30	<0.80	<u>66.0<sup>g</sup></u>	179	<1.2	<0.10	--	6.5 B	<3.0	<0.80	<2.4	<0.70	358
AM-34	December 2002	<1.2	<u>3.8<sup>g</sup></u> B	305	<0.20	<0.30	<0.80	<u>15.9<sup>g</sup></u> B	3.6 B	<1.2	<0.10	--	<u>26.8<sup>g</sup></u> B	5.8	<0.80	<u>6.9<sup>g</sup></u> B	1.2 B	<1.1
AM-35	December 2002	2.0 B	<u>16.3<sup>g</sup></u>	<u>2,930<sup>g</sup></u>	<u>3.9<sup>g</sup></u> B	<u>2.5<sup>g</sup></u> B	<u>84.4<sup>g</sup></u>	<u>105<sup>g</sup></u>	156	<u>92.4<sup>g</sup></u>	<0.10	--	<u>148<sup>g</sup></u>	3.2 B	<0.80	<u>15.8<sup>g</sup></u>	<u>113<sup>g</sup></u>	205
MW-1	April 2004	--	<u>3.4<sup>g</sup></u>	--	--	<0.5	0.54 J <sup>k</sup>	<u>3.3<sup>g</sup></u>	1.2	<0.5	--	5.4	9.4	--	--	--	--	6
MW-2	April 2004	--	<u>9.4<sup>g</sup></u>	--	--	<0.5	<4.0	<u>6.0<sup>g</sup></u>	2.8	<0.5	--	8.5	8.2	--	--	--	--	9.7
MW-3	April 2004	--	<u>5.2<sup>g</sup></u>	--	--	<0.5	<1.0	<u>5.0<sup>g</sup></u>	1.2	<0.5	--	3.5	7.8	--	--	--	--	3.8
MW-4	April 2004	--	<u>3.3<sup>g</sup></u>	--	--	<0.5	2.0	2.2	11	<0.5	--	4.1	5.5	--	--	--	--	27
MW-5	April 2004	--	<u>0.32<sup>g</sup></u>	--	--	<0.5	<1.0	1.9	1.8	<0.5	--	0.81	11	--	--	--	--	7.3
WP-06	March 2019	0.24 J3	<u>1.9<sup>g</sup></u>	140	0.071	<0.25	2.1	5.8	--	5.5	--	--	14	--	--	<0.50	4.6	--
WP-07	March 2019	0.090 J	<u>6.9<sup>g</sup></u>	160	<0.504	<0.25	0.38 J	6.8	--	<0.50	--	--	11	--	--	<0.50	0.93	--

<sup>a</sup> µg/L: micrograms per liter

<sup>b</sup> California Public Health Goal or PHG (Cal-EPA, OEHHA)

<sup>c</sup> U.S. Environmental Protection Agency Health Advisory

<sup>d</sup> California Department of Public Health, Primary MCL

<sup>e</sup> San Francisco Bay Regional Water Quality Control Board, Tier 1 Environmental Screening Levels, Revision 2, January 2019.

<sup>f</sup> U.S. Environmental Protection Agency Integrated Risk Information System (IRIS)

<sup>g</sup> underlined indicates a detection above a screening level.

<sup>h</sup> B: Analyte was detected in the method blank and in the sample.

<sup>i</sup> <: less than

<sup>j</sup> --: not analyzed

<sup>k</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.





<p align="center"><b>Table 8</b>  <b>Dioxins and Furans Congeners in Groundwater, March and July 2019</b>  <b>Little Lake Industries Mill, Arcata, California</b>  <b>(in pg/L)<sup>a</sup></b></p>				
Analyte	Sample Identification			
	WP-01	WP-04	WP-08	WP-09
2,3,7,8 TCDD (PHG) <sup>b</sup>	0.05	0.05	0.05	0.05
2,3,7,8 TCDD (MCL) <sup>c</sup>	30	30	30	30
2,3,7,8 TCDD	<10.0 <sup>d</sup>	<10.0	<9.78	<9.60
1,2,3,7,8,PeCDD	<50.0	<50.0	<48.9	<48.0
1,2,3,4,7,8 HxCDD	<50.0	23.2 J <sup>e</sup>	<48.9	<48.0
1,2,3,6,7,8 HxCDD	<50.0	96.1	<48.9	<48.0
1,2,3,7,8,9 HxCDD	<50.0	49.7	<48.9	<48.0
1,2,3,4,6,7,8 HpCDD	104	3,210	<48.9	<48.0
OCDD	632	38,600	272	<96.0
2,3,7,8 TCDF	<10.0	<10.0	<9.78	<9.60
1,2,3,7,8 PeCDF	<50.0	<50.0	<48.9	<48.0
2,3,4,7,8 PeCDF	<50.0	<50.0	<48.9	<48.0
1,2,3,4,7,8 HxCDF	<50.0	25.8 J	<48.9	<48.0
1,2,3,6,7,8 HxCDF	<50.0	90.1	<48.9	<48.0
1,2,3,7,8,9 HxCDF	<50.0	<50.0	<48.9	<48.0
2,3,4,6,7,8 HxCDF	<50.0	<50.0	<48.9	<48.0
1,2,3,4,6,7,8 HpCDF	48.0 J	1,080	<48.9	<48.0
1,2,3,4,7,8,9 HpCDF	<50.0	31.8	<48.9	<48.0
OCDF	27.0 J	1,640	<97.8	<96.0
TEQ	<b>1.67<sup>f</sup></b>	<b>102<sup>f</sup></b>	<b>0.0816<sup>f</sup></b>	0.0

<sup>a</sup> pg/L: picogram per liter

<sup>b</sup> California Public Health Goal for drinking water SWRCB, August 2020.

<sup>c</sup> California Maximum Contaminant Level for drinking water SWRCB, August 2020.

<sup>d</sup> <: "less than" the laboratory reporting limit

<sup>e</sup> J: result is less than the reporting limit/method limit but greater than the method detection limit. The reported concentration is an estimated value.

<sup>f</sup> indicates a detection



**Table 9**  
**Soil Stockpile Sampling Results, June 2007**  
**Little Lake Industries, Arcata, California**

Sample ID	Stockpile Location	Sample Date	Total <sup>a</sup>		TCLP <sup>b</sup>		TCLP with Silica Gel <sup>c</sup>	
			Diesel	Motor Oil	Diesel	Motor Oil	Diesel	Motor Oil
			(µg/g) <sup>d</sup>		(µg/L) <sup>e</sup>		(µg/L)	
MS-01	MS	6/26/2007	8.4 <sup>f</sup>	49 <sup>f</sup>	120 <sup>f</sup>	<170 <sup>g</sup>	<50	<170
MS-02	MS	6/26/2007	9.4 <sup>f</sup>	53 <sup>f</sup>	<50	<170	-- <sup>h</sup>	--
SS-01	SS	6/26/2007	12 <sup>f</sup>	51 <sup>f</sup>	<50	<170	--	--
SS-02	SS	6/26/2007	27 <sup>f</sup>	120 <sup>f</sup>	<50	<170	--	--
STP-3-01	STP-3	6/26/2007	13 <sup>f</sup>	80 <sup>f</sup>	<50	<170	--	--
RS-01	RS	6/26/2007	23 <sup>f</sup>	280 <sup>f</sup>	60 <sup>f</sup>	<170	--	--
RS-02	RS	6/26/2007	7.3 <sup>f</sup>	50 <sup>f</sup>	<50	<170	--	--
RS-03	RS	6/26/2007	4.6 <sup>f</sup>	29 <sup>f</sup>	--	--	--	--
RM-01	RM	6/26/2007	3.8 <sup>f</sup>	24 <sup>f</sup>	<50	<170	--	--
RM-02	RM	6/26/2007	7.2 <sup>f</sup>	58 <sup>f</sup>	78 <sup>f</sup>	<170	<50	<170
RM-03	RM	6/26/2007	25 <sup>f</sup>	120 <sup>f</sup>	<50	<170	--	--
RM-04	RM	6/26/2007	6.5 <sup>f</sup>	37 <sup>f</sup>	80 <sup>f</sup>	<170	<50	<170
RM-05	RM	6/26/2007	24 <sup>f</sup>	170 <sup>f</sup>	62 <sup>f</sup>	<170	--	--
RM-06	RM	6/26/2007	9.5 <sup>f</sup>	63 <sup>f</sup>	<50	<170	--	--
RM-07	RM	6/26/2007	14 <sup>f</sup>	100 <sup>f</sup>	<50	<170	--	--
RM-08	RM	6/26/2007	26 <sup>f</sup>	230 <sup>f</sup>	65 <sup>f</sup>	<170	--	--
RM-09	RM	6/26/2007	5.0 <sup>f</sup>	26 <sup>f</sup>	<50	<170	--	--
RM-10	RM	6/26/2007	1.8 <sup>f</sup>	14 <sup>f</sup>	64 <sup>f</sup>	<170	--	--
RM-11	RM	6/26/2007	18 <sup>f</sup>	160 <sup>f</sup>	50 <sup>f</sup>	<170	--	--
RM-12	RM	6/26/2007	18 <sup>f</sup>	180 <sup>f</sup>	<50	<170	--	--
RM-13	RM	6/27/2007	10 <sup>f</sup>	72 <sup>f</sup>	69 <sup>f</sup>	<170	--	--
RM-14	RM	6/27/2007	13 <sup>f</sup>	96 <sup>f</sup>	66 <sup>f</sup>	<170	--	--
RM-15	RM	6/26/2007	16 <sup>f</sup>	170 <sup>f</sup>	--	--	--	--
SP-A-01	SP-A	6/26/2007	16 <sup>f</sup>	140 <sup>f</sup>	130 <sup>f</sup>	540 <sup>f</sup>	120 <sup>f</sup>	<170 <sup>f</sup>
SP-B-01	SP-B	6/26/2007	14 <sup>f</sup>	150 <sup>f</sup>	64 <sup>f</sup>	170 <sup>f</sup>	--	--
SP-B-02	SP-B	6/26/2007	20 <sup>f</sup>	260 <sup>f</sup>	86 <sup>f</sup>	310 <sup>f</sup>	--	--
SP-C-01	SP-C	6/26/2007	23 <sup>f</sup>	220 <sup>f</sup>	100 <sup>f</sup>	430 <sup>f</sup>	70 <sup>f</sup>	180 <sup>f</sup>
B-01	B	6/26/2007	10 <sup>f</sup>	94 <sup>f</sup>	69 <sup>f</sup>	<170	--	--
B-02	B	6/26/2007	8.2 <sup>f</sup>	82 <sup>f</sup>	66 <sup>f</sup>	<170	--	--
B-03	B	6/26/2007	24 <sup>f</sup>	180 <sup>f</sup>	58 <sup>f</sup>	<170	--	--
B-04	B	6/26/2007	12 <sup>f</sup>	78 <sup>f</sup>	66 <sup>f</sup>	<170	--	--
B-05	B	6/26/2007	22 <sup>f</sup>	210 <sup>f</sup>	90 <sup>f</sup>	280 <sup>f</sup>	<50	<170
B-06	B	6/26/2007	12 <sup>f</sup>	100 <sup>f</sup>	58 <sup>f</sup>	<170	--	--
B-07	B	6/26/2007	29 <sup>f</sup>	240 <sup>f</sup>	74 <sup>f</sup>	260 <sup>f</sup>	--	--
B-08	B	6/26/2007	10 <sup>f</sup>	120 <sup>f</sup>	91 <sup>f</sup>	270 <sup>f</sup>	--	--
B-09	B	6/26/2007	19 <sup>f</sup>	130 <sup>f</sup>	82 <sup>f</sup>	280 <sup>f</sup>	--	--
B-10	B	6/26/2007	5.7 <sup>f</sup>	58 <sup>f</sup>	80 <sup>f</sup>	290 <sup>f</sup>	150 <sup>f</sup>	600 <sup>f</sup>
B-11	B	6/26/2007	17 <sup>f</sup>	110 <sup>f</sup>	83 <sup>f</sup>	280 <sup>f</sup>	57 <sup>f</sup>	<170
B-12	B	6/26/2007	11 <sup>f</sup>	99 <sup>f</sup>	87 <sup>f</sup>	<170	--	--



<p align="center"><b>Table 9</b>  <b>Soil Stockpile Sampling Results, June 2007</b>  <b>Little Lake Industries, Arcata, California</b></p>								
Sample ID	Stockpile Location	Sample Date	Total <sup>a</sup>		TCLP <sup>b</sup>		TCLP with Silica Gel <sup>c</sup>	
			Diesel	Motor Oil	Diesel	Motor Oil	Diesel	Motor Oil
			(µg/g) <sup>d</sup>		(µg/L) <sup>e</sup>		(µg/L)	
B-13	B	6/26/2007	11 <sup>f</sup>	83 <sup>f</sup>	56 <sup>f</sup>	<170	--	--
B-14	B	6/26/2007	4.4 <sup>f</sup>	40 <sup>f</sup>	96 <sup>f</sup>	200 <sup>f</sup>	--	--
B-15	B	6/26/2007	9.7 <sup>f</sup>	79 <sup>f</sup>	72 <sup>f</sup>	250 <sup>f</sup>	81 <sup>f</sup>	240 <sup>f</sup>
B-16	B	6/27/2007	43 <sup>f</sup>	110 <sup>f</sup>	<50	<170	--	--
B-17	B	6/27/2007	8.3 <sup>f</sup>	66 <sup>f</sup>	140 <sup>f</sup>	670 <sup>f</sup>	--	--
B-18	B	6/27/2007	25 <sup>f</sup>	23 <sup>f</sup>	290 <sup>f</sup>	800 <sup>f</sup>	--	--
B-19	B	6/27/2007	6.0 <sup>f</sup>	39 <sup>f</sup>	86 <sup>f</sup>	290 <sup>f</sup>	<50	<170
B-20	B	6/27/2007	19 <sup>f</sup>	69 <sup>f</sup>	180 <sup>f</sup>	540 <sup>f</sup>	--	--
B-21	B	6/27/2007	12 <sup>f</sup>	99 <sup>f</sup>	--	--	--	--

<sup>a</sup> TPHD & TPHMO (Total) analyzed in general accordance with EPA Method No. 3550/8015B.

<sup>b</sup> TCLP: Toxicity Characteristic Leaching Procedure. Analyzed in general accordance with EPA Method SW 8015B (completed using deionized water)

<sup>c</sup> Extractable TCLP analyzed in general accordance with EPA Method SW 8015B, using silica gel cleanup.

<sup>d</sup> µg/g: micrograms per gram

<sup>e</sup> µg/L: micrograms per liter

<sup>f</sup> indicates a detection

<sup>g</sup> <: "less than" the laboratory reporting limit

<sup>h</sup> --: not analyzed





STATE OF  
CALIFORNIA

County of Humboldt



# PROOF OF PUBLICATION

Proof of Publication of: City of Arcata  
Hearing for 2021 USEPA  
Brownfield Cleanup Grant

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the matter referred to herein. I am the "principal" clerk of the publisher of the MAD RIVER UNION a newspaper of general circulation, published once a week, Wednesdays, in the City of Arcata, county of Humboldt, and which has been adjudged a newspaper of general circulation by the Superior Court of the County of Humboldt, State of California, under the date of Oct. 29, 2013, Court Decree Number CV130613; that the notice of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

Continued  
on page 2

Run Dates 10/7/20

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Arcata, Humboldt County, California

this 6 day of October 2020

Signature: Jack Durham

Kevin Hoover or Jack Durham

(707) 826-7000

This space is for the County Clerk's Filing Stamp





# PROOF OF PUBLICATION

## Continued

### CITY OF ARCATA NOTICE OF PUBLIC HEARING FOR SUBMITTAL OF 2021 USEPA BROWNFIELD CLEANUP GRANT

**APPLICATION  
NOTICE IS HERE-  
BY GIVEN** that the City Council of the City of Arcata will conduct a Public Hearing to discuss the submittal of an application in response to the United States Environmental Protection Agency (USEPA) Request for Proposals for Fiscal Year 2021 Brownfield Cleanup Grants, and to solicit citizen input on Wednesday, October 21, 2020 at 6:00 p.m. Consistent with Executive Orders N-25-20 and N-29-20 from the Executive Department of the State of California and the Humboldt County Public Health Officer's March 19, 2020, Shelter-in-Place Order, the City Council meeting location will not be physically open to the public and City Councilmembers will be teleconferencing into the meeting via Zoom Video Communications.

#### **How to Observe the Meeting:**

To maximize public safety while still maintaining transparency and public access, members of the public can observe the meeting on television on Access Humboldt Channel 10, by visiting [www.cityofarcata.org](http://www.cityofarcata.org) and clicking on the See Live Meetings, Agendas, and Archives button on the home page, or on the City's YouTube channel at <https://www.youtube.com/channel/UCJYG-p9zDPdWMGtA0BtfFX-A>

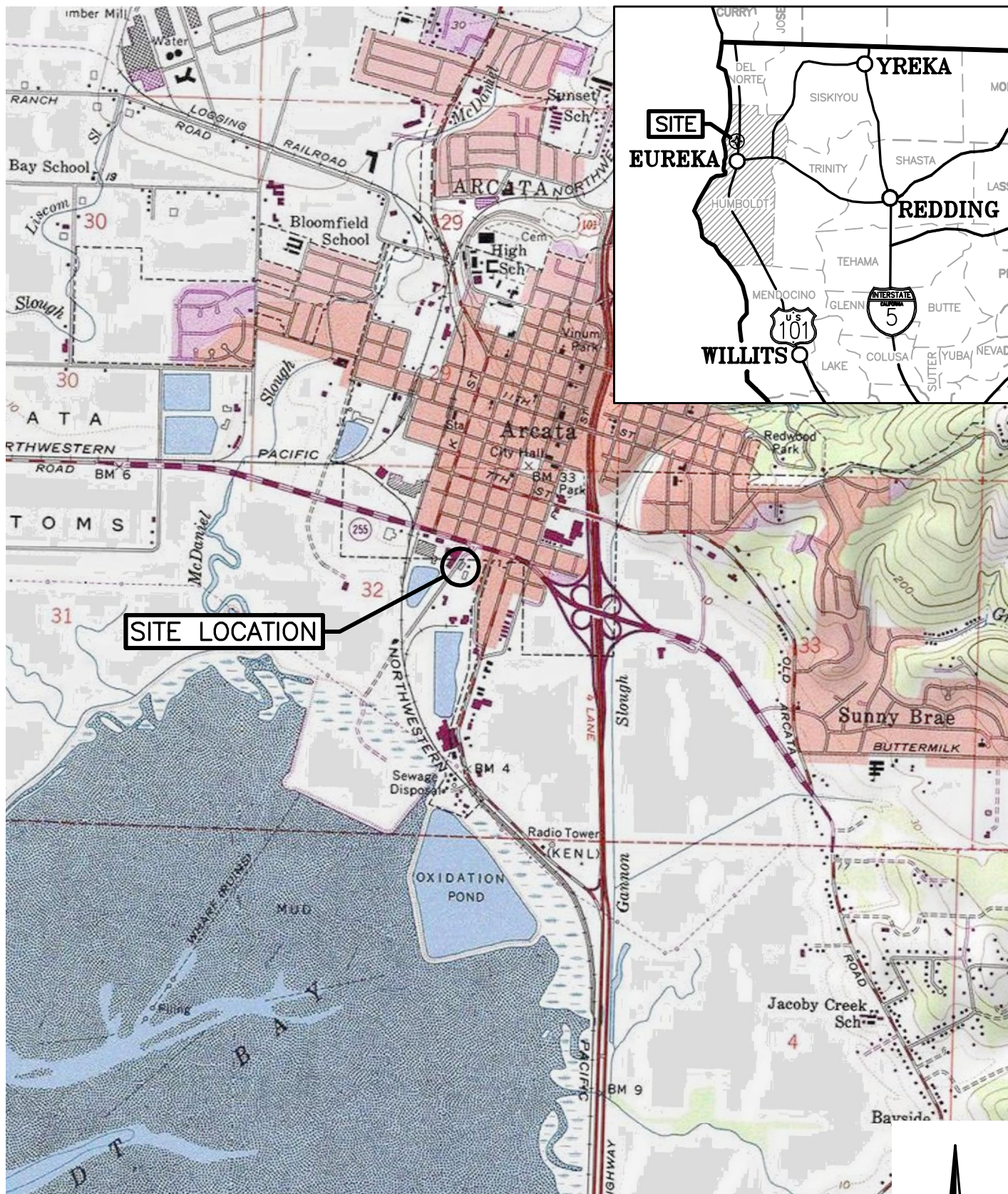
The Community Development Department, on behalf of the City of Arcata, anticipates applying for hazardous substance remediation at the Little Lakes Industries site located at 46 South 'I' Street. The purpose of these public hearings is to give citizens an opportunity to comment on the draft grant application and the draft Analysis of Brownfield Cleanup Alternatives for the site.

If you require special accommodations to participate in the public hearing, please contact the City Clerk at [bdory@cityofarcata.org](mailto:bdory@cityofarcata.org) or by calling (707) 822-5953. The City Clerk will use their best efforts to provide reasonable accommodations to provide as much accessibility as possible while maintaining public safety.

You may direct written comments to the City of Arcata, at 736 F Street, Arcata, CA 95521, or by e-mail to Jennifer Dart at [jdart@cityofarcata.org](mailto:jdart@cityofarcata.org) or by calling (707) 825-2112.

10/7





SOURCE: ESRI



## Application for Federal Assistance SF-424

\* 1. Type of Submission:

- ☐ Preapplication  
☒ Application  
☐ Changed/Corrected Application

\* 2. Type of Application:

- ☒ New  
☐ Continuation  
☐ Revision

\* If Revision, select appropriate letter(s):

\* Other (Specify):

\* 3. Date Received:

10/27/2020

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

### 8. APPLICANT INFORMATION:

\* a. Legal Name:

City of Arcata

\* b. Employer/Taxpayer Identification Number (EIN/TIN):

94-2186507

\* c. Organizational DUNS:

0049408210000

### d. Address:

\* Street1:

736 F Street

Street2:

\* City:

Arcata

County/Parish:

Humboldt

\* State:

CA: California

Province:

\* Country:

USA: UNITED STATES

\* Zip / Postal Code:

95521-6211

### e. Organizational Unit:

Department Name:

Community Development

Division Name:

### f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

\* First Name:

Jennifer

Middle Name:

E.

\* Last Name:

Dart

Suffix:

Title:

Community Development Deputy Director

Organizational Affiliation:

City of Arcata

\* Telephone Number:

707-825-2112

Fax Number:

\* Email:

jdart@cityofarcata.org

## Application for Federal Assistance SF-424

### \* 9. Type of Applicant 1: Select Applicant Type:

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

### \* 10. Name of Federal Agency:

Environmental Protection Agency

### 11. Catalog of Federal Domestic Assistance Number:

66.818

CFDA Title:

Brownfields Assessment and Cleanup Cooperative Agreements

### \* 12. Funding Opportunity Number:

EPA-OLEM-OBLR-20-07

\* Title:

FY21 GUIDELINES FOR BROWNFIELD CLEANUP GRANTS

### 13. Competition Identification Number:

Title:

### 14. Areas Affected by Project (Cities, Counties, States, etc.):

1234-LLI Site Location Map.pdf

Add Attachment

Delete Attachment

View Attachment

### \* 15. Descriptive Title of Applicant's Project:

Little Lake Industries site cleanup application

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments



**Application for Federal Assistance SF-424****16. Congressional Districts Of:**\* a. Applicant \* b. Program/Project 

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

**17. Proposed Project:**\* a. Start Date: \* b. End Date: **18. Estimated Funding (\$):**

* a. Federal	<input type="text" value="300,000.00"/>
* b. Applicant	<input type="text" value="60,000.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="360,000.00"/>

**\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- ☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☒ c. Program is not covered by E.O. 12372.

**\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

**21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ \*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

**Authorized Representative:**

Prefix:  \* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title: \* Telephone Number:  Fax Number: \* Email: \* Signature of Authorized Representative:  \* Date Signed: